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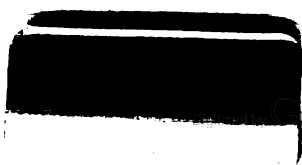
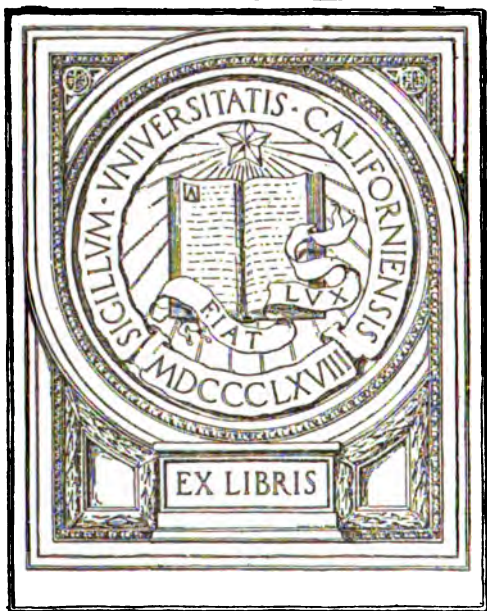
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THE CALL OF THE LAND

E. BENJAMIN ANDREWS

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F. L. Griffin





ELISHA BENJAMIN ANDREWS, Ph. D., D. D., LL. D.

THE CALL OF THE LAND

Popular Chapters on Topics
of Interest to Farmers

By
E. BENJAMIN ANDREWS

*Chancellor Emeritus of the University
of Nebraska*

UNIVERSITY OF
NEBRASKA

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With whom it has been his privilege
to serve the cause of higher
education in Nebraska

THIS BOOK IS DEDICATED

in token of esteem and love
by the Author

445120

**“Of all the occupations which can be made sources of gain, none is finer than agriculture, none more lucrative, none more charming, none more worthy of a free man.”
Cicero, De Officiis, I, 42.**

PREFATORY WORD

“Now, as ever, to the nation and the race as to the individual, Nature, the unrelenting task-mistress of the centuries, holds out in one hand her horn of plenty and in the other her scourge. This country has brought itself within reach of the thong while grasping at the satisfaction of present appetite and forgetting the primal relation between man and the earth. The path to prosperity is still open. The divinity of the earthly life is at heart kind. Under her rule there is work and abundant reward for all, but these must be won in her designated way and in none other. Her pointing finger, that has never varied since man came upon the earth, shows the old and only way to safety and honor. Upon the readiness with which this is understood, the sober dignity with which a whole nation rises to the winning of its broad and perma-

PREFATORY WORD

nent prosperity, will depend the individual well-being of millions of this and many generations. Largely by this method will posterity, our fit and righteous judge, determine whether what issues from the crucible of this twentieth century is a bit of rejected dross to be cast aside, or a drop of golden metal to shine forever upon the rosary of the years." From Hon. James J. Hill's Minnesota State Fair Address, September, 1906.

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UNIV. OF
CALIFORNIA

TO THE
ALBANY



HON. WILLIAM GUNN WHITMORE,
Regent of the University of Nebraska.

The Call of the Land

CHAPTER I

THE FARMSTEAD BEAUTIFUL

THE entire nation is interested in keeping its agricultural population on a high plane of life. The result will not be secured without care. In all lands rural folk tend to become mere peasants, hewers of wood and drawers of water to those better off. Can we in the United States stem this tendency? I believe we can. Already many innovations are coming to our relief. The telephone, free rural postal service and good roads conspire to bring remote farms into close connection with the living world. Up-to-date scientific farming, making the business pay, supplies the farmer and his family with the means for reading matter and for wide education and travel. These are all first rate civilizing influences. There is, however, one additional appliance with-

out which the work will be painfully incomplete, your sons and daughters continuing to leave you, preferring almost any sort of a life in town to that which your homes offer. This other aid, this missing link, is the development of beauty on the farm, more particularly in and about the farm home. We need to make the farm home itself rich in cultivating influences, a live inspiration, a perennial joy to farmer, wife, children and neighbors.

Let me silence beforehand a false thought which may arise in some minds, that what I am going to propose would involve a vast increase in the cost of home-making. On the contrary, what I urge is in the main quite compatible with utmost simplicity and cheapness. Moreover, nearly every feature commended by me will if introduced be found useful as well as beautiful. Beauty and use go hand in hand more frequently than we think.

Another thing: For the sake of simplicity my suggestions mainly presuppose a new start with a farm, a fresh layout, unham-

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pered by old buildings or preconceived arrangements. I must leave you to apply what I say to cases where the farmstead is already laid out, where the house and the other buildings have been erected before you arrive or before your esthetic sensibility is aroused.

Still another preliminary remark. My observations suit primarily the tier of states north and south to which Kansas, Nebraska and the Dakotas belong, halfway between the Mississippi and the Rockies. Some of the precepts offered need more or less modification for application elsewhere. Most-wise this transfer to other circumstances will be easy.

I begin with a consideration or two relating to the farm at large. In many parts of the country the scene which the farm presents is surpassingly beautiful by nature. There are hills and valleys, ponds, water-courses, waterfalls, woods, groves and open fields, making a picture which the most consummate artist that ever lived could not render more lovely. In such cases, of

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course, let well enough alone. Upon the average farm in the relatively level parts of the country there is more to do. Art is required to render the farm scene as delightful as it may be. You can straighten water courses or beautify their curves, wall in their banks, create a few artificial lakes or ponds and put in some timber patches. These last, if the trees are properly chosen, will create profit as well as beauty. Properly selected and cultivated trees can be produced on any farm in any state in the Union enough to supply, when they are mature, by culling out one here and there, all the timber needed on the farm. Mr. Clothier, the government forestry expert, says that hackberry, white elm, bull pine, Platte red cedar, western red cedar, green ash and red ash will thrive upon the most arid land in Nebraska, which means, I presume, that they will grow anywhere in this tier of states. Almost everywhere burr oak also will grow, and, in the lowlands, cottonwood. Cross strips of these trees east and west several rods wide, leaving long narrow

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ribbons between, will immensely aid in conserving moisture and in sheltering from the wind. They save the moisture, not only by holding it in their leaves and bark, but also by decreasing the velocity of the wind, swift wind vieing with the sun itself as a desiccating power during the summer months.

"The windbreak," says Mr. Clothier, "is a practical appliance for the conservation of the moisture of the soil. A quarter section, divided by belts of Russian wild olive a rod wide into long narrow fields extending lengthwise east and west, will yield more crops than the whole 160 acres in cultivation. If the utilization of the Russian wild olive is not possible, the farmer should go to Nature for material with which to form hedges. The following native shrubs and small trees should be planted for hedges: Buffalo berry, choke cherry, wild plum, buckthorn, fragrant sumach, ironwood, diamond willow, wild black currant, wild gooseberry, thorny haw, wild rose, red twig dogwood, false indigo and sand bar willow. There are many introduced shrubs that are

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particularly valuable for ornamental hedges."

"There should be a combined effort for the amelioration of the climate," Mr. Clothier continues. "Hot winds are local in their origin and may be modified or controlled by local conditions. Artificial groves and belts of timber surrounding and crossing every prairie farm, large plantations on the sand hills and other tracts of non-agricultural lands, and the extension of the natural belts now in existence would accomplish much toward controlling the hot winds."

Choose with care the location of your farmstead. If your farm is mainly level, I should say select the highest 20 acres bordering or near the public road. If the very highest land you own would be too elevated, you would select another site, but it should be itself an elevation so as to have perfectly free air and water drainage. Another great advantage of such a site will be its sightliness, permitting you from every window to see a large part of your farm and vast

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reaches of territory besides—hill, dale, mountain, stream and lake. The farmstead should be not far from square, the house at least three hundred feet away from the road, and the barn at least twice this distance farther away, straight behind the house if the configuration of the ground permits. The farmstead land should extend some distance up and down the road and back toward the main part of the farm. With the exception of ample room for the buildings and for one or two water reservoirs, it should be devoted to forests, orchards, gardens, and shrubbery patches. These various plantations may be arranged so as to make the farmstead a place of extraordinary beauty, summer and winter alike. No excessive drouth or heat need be suffered there.

The location of the barn should be lower than that of the house and considerably farther from the house than is usual. Take abundant room for the barn, also for each of the other outbuildings. Place a cellar under the barn and house all fertilizing mate-

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rial therein. Do not have an old-fashioned yard for the stock, but good-sized paddocks and plenty of them, changing the cattle between them from time to time. There may be a permanent piggery and a permanent chicken place—either directly in rear of the barn or flanking its far end as horse barn and implement house should flank the main barn front—but in all suitable weather both swine and chickens ought to be confined on the paddock plan the same as cattle. By such arrangements the existence of any filthy looking spot anywhere on the premises may be prevented. Place the horse barn to the left of the main barn as you look down from the house. Opposite it, to the right, equally far from the main barn, rear an agricultural implement house where reapers, mowers, plows, cultivators, heavy wagons, etc., can be stored. Buggies and light wagons may be kept in the horse barn. Have a place for everything and have everything in its place. Nothing mars the beauty of farm grounds more than heaps of rubbish, broken implements, pieces of machin-

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ery, old wheels, sleighs and such things lying here and there. This is another point at which use and beauty perfectly agree, for the loss suffered by shiftlessness of this kind is as great as the offense it offers to your sense of beauty.

I say little about the shape and style of these outbuildings. I recommend, however, that the barn be rectangular, perfectly proportioned, painted some plain color, and topped with an appropriate cupola, and that the front approach be neatly graded and paved or graveled.

By the "home lot" I mean the space immediately surrounding the house. A nice shape for this tract is the perfect square with the house in the center, the front of the square bordering upon the street. Have the ground slope gradually away from the house in all directions making the house foundation the acme of a pyramid. Each face of this pyramid should be a lawn, the arrangement and beautification of which will be discussed presently. There is no real necessity for a house yard. If wood is

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burned, have a neat wood-house, a little removed from the mansion, or, what is still better, a cellar roomy enough to hold the wood pile. The house will probably have a special front toward the street, but all the other frontings or approaches should be kept with as scrupulous care as the one facing the street. Whatever way one looks from any window in the house one should see what is pleasant to the view, nothing unkempt, unsightly or dirty.

The most essential direction for constructing a beautiful house lawn is that it should be seen at a glance, by the uninterrupted green expanse of it, to be meant for a lawn, not for an orchard, a flower garden or a shrub patch. Do not distract the impression by scattering upon it trees, flower beds, or plants. Make it free for the horse mower. The area should have size somewhat in proportion to that of the house. It should be smooth, uniform in its slope or slopes, and solidly sodded with blue grass and white clover. Unless the soil is rich it will pay to subsoil or trench it and to put in

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manure. If the grass seed fails to come in perfectly or if spots are winter-killed, do not plow again. Scratch in new seed with a rake and cover with a thin layer of very rich loam. To make a good sod takes time; do not be impatient if growth seems slow. Top-dress, irrigate, pull the weeds, mow. The desired result will appear in time, richly repaying all your efforts.

Terraces, banks, borders or flower-ribbons will set off and grace the lawn on all its sides, save perhaps the front. If the slope suffices, two or three narrow terraces rising one behind another aflame with flowers may front the house, separating it from the lawn. Largish flowers or even shrubs might fill the highest terrace next the house. By this device a terrace-like effect can be had with minimum slant. In winter these beds may be covered with strips and figures of stone chips in various colors so as to be very graceful. I have seen this device carried out in palace courtyards in Europe with striking success.

Any hedgerow or shrub row should be

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treated as a backing, a heavy ribbon of flowers stretching along its front, the whole forming a mass and saluting the eye together. Here and there in the mass one tall and conspicuous flower may stand if you like. The ribbon of flowers can be cultivated; the shrubbery behind will take care of itself. Plant copiously all kinds of flowers, that your borders may shine from earliest spring till late autumn, and that children and visitors may pluck as they list.

If walks or drives must invade the lawn, make them as few and simple as possible, at the side or the middle, and either perfectly straight or curving gently. Avoid angular turnings.

Besides the general tree-setting for your house formed by the orchards, groves, and forests covering most of your farmstead you will want a special tree-setting, and on this you ought to bestow extraordinary care. Use trees which will grow lustily in your soil, live long, stand wind, and cast a thick shade. They must be neither too near the house nor too far, and neither too numerous

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**Regent Coupland of the University of Nebraska in his study.
Regent Coupland's Residence, Elgin, Nebraska.**

70. 1911
1911. 1911

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nor too few. Most home makers err by profusion of shade near the house, rendering it unhealthy and obscuring the prospect. If the climate is dry and windy, more trees may surround the house and they may stand closer to it than is proper in damp situations. It is often recommended that a row of tall trees be planted in rear of the house, partly as an artistic backing for it, and partly to shield the barn from view. I do not like this. Trees in the position named are too far away to shade the house, while they cannot but veil the view. The barn should be visible from the house, not veiled; only, it and all about it should be rendered perfectly neat and sightly.

Have large gardens and flower gardens. Make them long, the rows lengthwise, and plant so that all rows can be cultivated with horse power. Those flower strips which I recommended as borders to your lawn or lawns may also be so planted as to be kept clean by means of the horse plow.

I come now to the house itself, the center of the farm life, where the farmer and

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his family live, where his children are born, and where are originated and developed those early ideas, feelings and propensities which will make or mar their lives. No man having a house at all is so poor that he can afford to neglect the environment of the childhood life beginning and growing up in that house.

Innumerable designs for farm houses are before the public. The variety of them is vast and the architectural elements presented in many are fine. I have seen some excellent ones in the *Ladies' Home Journal* during recent months. After such study as I have been able to give to the subject I am impressed that no other house plan is on the whole so advantageous or commendable for farmers as the old-fashioned rectangular form, providing for a central hall, four rooms below and four rooms above, the roof having a one-third pitch. This plan is susceptible of indefinite variation. It can be made rigidly puritanic as to adornment, or it can be ornamented in any way and to any extent. The hall can be

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large or small. You can add an ell for a kitchen or not as you please. So of bay windows, dormer windows, and porches. Other impressive advantages of the structure are the great strength and the great economy of space going with it. Much saving of expense is also secured by the simplicity of this style of building when repairs become necessary, there being the fewest possible queer angles, breaks, turnings, pockets, gewgaws and places hard to get at.

It is with much hesitation that I approach the subject of interior house decoration. Tastes differ and many different methods for house beautification might be suggested each of which would be pleasing to highly cultivated people.

We need first of all to divest ourselves of the idea that beautifying the inside of a house need involve great expense. The truth is otherwise. Many a householder could make a truly elegant interior with half the expense to which he has gone to burden and disfigure his walls, ceilings and floors. Simplicity is a chief rule of art.

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To this for our present purpose we may add cleanliness. Any bric-a-brac or adornment whatever which renders it hard to keep a room clean is out of order and contradicts the best taste. On this account I would not use a picture molding or allow any covering or ornament on any article of furniture so constructed or put on as to hide dust. I would eschew all carpets. They are dirt collectors and germ breeders. Use rugs if you can get them; if not, bare floors made as presentable as is convenient and kept clean.

Let us have no room, call it parlor or what not, too nice for daily use. Any part of your house good enough for you will please your callers whoever they are. One can suffer no more chilling or inhospitable treatment than to be shown into the best room of many a house. You feel yourself in a strange place, cold, lonely, uninhabited. Even if the room is perfect in its decoration and appointments the effect of its non-use is frigidity. There is, of course, no impropriety in making certain rooms finer

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than others, but all your rooms should be for you and your family. The habit of crowding the whole family life into the kitchen is vulgarizing in the extreme.

As far as possible avoid paint for interior wood work. Natural wood, if neatly finished, is more beautiful and in the end cheaper. On the other hand, when plastered walls need something beyond neat hard finish, it is in most cases better to use paint than paper.

Have ample light in every room. Many builders love darkness rather than light. Their architecture and esthetic deeds are evil. Light is the best adornment possible, basal to all the others, none of which will show to the best advantage in *chiaroscuro*. It is easy to drape a window so as to keep out too much light, a thing we need to do rather often in these prairie states where we have sunshine to burn; but it is not easy to enlarge a window once made or to tunnel the wall for a new one. The lighter your room is from out-of-doors the darker its walls and furnishings may be; the darker it

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is the lighter they must be. The same rule holds to a certain extent for outside coloring—the brighter the light the darker the paint.

Many housewives worry themselves to a fever over the color displays in such color ornamentation as they wish to introduce upon the walls of rooms, in furniture, rugs and window shades. A few simple principles may be of service.

All true art is grounded in Nature, and today Nature is our best teacher in all art work. To make the colors and figures of your interior permanently pleasing and impressive, follow Nature. Let curves predominate over corners and peaks.

In producing her color effects you notice that mother Nature works several devices. She lays out vast expanses of some one dull hue or of several dull hues so blended that your eye catches the resultant tint rather than any constituent. The sky by day, a ripening grain field, the ocean, a lake or a river, or any late autumn landscape will illustrate. These dullish-colored scenes are surpassingly restful to eye and mind. They

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awaken the sense of beauty in a massive and lasting way, probably being more causative of beauty delight on the whole than any of Nature's bright colors are. My eyes may be guilty of perjury, but they always swear that November is as beautiful a month as June.

Sometimes—and this is her second method—Nature dashes a great clump of color into one of those neutral backgrounds. This is illustrated by the sun against his day sky or reflected in a broad surface of water; an evergreen tree amid an autumn or winter forest or standing alone on a stubble or otherwise dun-colored field; poppies or other bright flowers springing up after harvest; black, white, or red cattle roaming the autumn prairie; the green trees against the red rocks on western slopes of the Rocky Mountains.

Sometimes—call this, if you will, Nature's third method—two sharply contrasted bright colors are brought together in about equal masses. A butterfly's wing shows this scheme; so do the leaves and flowers

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when fruit trees blossom, and also green meadows "with daisies pied." A fourth way is to spangle a rich background with equally rich but pronouncedly contrasting color spots. This method is illustrated by the deep blue sky of night studded with burning stars, also by the glorious green meadow bearing "loud" colored flowers here and there. In such cases, as I said, the sparse ornament and its background are both powerfully colored. This last arrangement, however, is never a standing order in Nature, but comes and goes. Sunrise at once pales the sky's blue and puts the stars out of countenance. The green of the meadow gives way to brown when autumn arrives and in the winter may be covered with snow. The permanent color art of Nature is of the varieties mentioned before: paired brilliants, dull backgrounds alone, dull backgrounds studded with sparkles.

If you were giving a room the most stunning effect possible for a single day, evening or week, you might paint floor and ceiling rich blue or red or even green, with

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here and there a picture of the same color or else sharply contrasting with the background. But in the long run you would find such an arrangement wearying. For steady diet better make the background plain, a dull white, gray, yellow, light olive, or even very light blue, and then put on a few contrasting ornaments such as pictures. Even if you cannot ornament at all, your room may be truly tasteful and beautiful with a white ceiling, a clean bare floor, and calcimined walls in straw color or light olive. Ornaments can, with good results, be changed from room to room or from one position to another within a room. Articles of furniture may be shifted in the same way. A few rich and beautiful ornaments are better than a too great number even of the best, and certainly preferable to numerous cheap ones. Greatly to be recommended for people of moderate means are photographs, however small and low priced, of great works of art, each photograph placed in an elegant frame contrasting in color with the wall on which it hangs. The

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boys can make the frames and the girls paint them. In these days when copies of art masterpieces are so inexpensive, no home need go unadorned.

I wonder if we are aware at how small a price choice reproductions of great art works can be had. One series of the Perry pictures come at a penny apiece. You need only turn your children's attention to these pictures, when they will save their pennies and purchase enough to illustrate the entire history of art. Let the young people make a frieze of such pictures around your best room, placing each picture so it can easily be removed and dusted. You will have in that array of pictures beauty, education, inspiration. A plaster cast, adamantine finished, of a noble statue famous in the history of art, such as Michelangelo's David, can be had at \$4 to \$6. By many, even of the wealthy, these casts are preferred to marble replicas, being absolutely true to their originals.

While I am upon this let me suggest that your sons and daughters be given permis-

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sion to beautify in their own way some particular room in your house, or, at any rate, some alcove or corner. This can be known as the children's room or corner.

The principles thus laid down will help in the choice of rugs. A plain rug with a body of one and the same general shade, or with such a body set off by a few modest bits of ornamentation will please the eye permanently, whereas one with dashing, glaring or conspicuous figures soon palls upon the sight.

Will it pay?

The foregoing hints are meant to be useful to poor farmers as well as to rich ones; serviceable on the most heavily mortgaged farms as well as on unencumbered ones. No doubt, however, some of the suggestions would, if carried out in ever so simple a way, involve some little expense in money and perhaps considerable expense in labor. Will it pay?

It will pay. Nearly everything needed to make the farmstead beautiful will in the long run pay in dollars and cents. Granted,

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though, I am not urging beautification solely or mainly as remunerative in that sense. Life is more than meat and the body than raiment. It pays to lift life, mind, taste, thoughts. If you, husband and father, intent on planting and growing dollars, care little for those immaterial commodities, let me plead for your sons. Train them—or let them train themselves—to a life that is not mere drudgery. Help them learn to love home. Make the place so attractive that if they leave you for a time they will never fully rest till they come back to the old homestead. You can have this so if you will.

I plead, too, for the women of your family. It pays to remove a mortgage from your farm; it pays certainly as well to remove furrows from a wife's brow or, what is better, prevent them from appearing there. The lives of farmers' wives seem in many cases sadly monotonous, lacking in opportunities for the development of sweetness and cheer. Their whole expression, their every gesture, their very smile, often

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suggests weariness. Even young girls reared on farms too often lack that buoyancy and freedom which belong to youth. The farmer himself, also, to a greater extent, his sons, have variety of occupation, bringing them in touch with men and questions; but apart from occasional shopping in town farmers' wives and daughters have at best little enough to spice or enrich their toils. It is said that the majority of the women in the asylums are farmers' wives; if so, it is undoubtedly owing to the dreary sameness of their experience, rare breaks or pauses in work that can never end, the treadmill, the plodding, the ever abiding shadow. Husband and father, can you do less for these loved ones than doing your best according to your means to make the Farmstead Beautiful?

CHAPTER II

THE NATIONAL IMPORTANCE OF RURAL INTERESTS

IN the United States two great movements which have extraordinary social importance are now progressing. One is the rush of population into the cities; the other, the syndicating of most wealth in a manner which threatens to lower the fortunes of the rural classes. These classes, being among those which cannot easily combine, have to sell their products competitively, whereas for most things which they buy they must pay syndicate prices. These two movements are so sweeping and in their effects so decisive that some thinkers regard them as destined to reduce the rural population of America to ignorant peasants such as we see and pity in most European lands.

Whether or not the danger is so great as is alleged, we need not inquire. One thing is certain, that the welfare of rural communities is no mere affair of these commu-



SEAMAN ASAHIEL KNAPP, D. Sc., LL. D.,
Author of the Farmers' Co-operative Demonstration Work Movement.

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nities alone, but is important to the entire Republic. For its continuance and strength the whole nation requires that the rural classes should thrive. As these classes are, so is the state.

In the United States the conjunction of virile population with boundless natural resources has created wealth with a rapidity never before attained. Then right in the midst of this incomparable development mankind reached the world's limit of free arable land. For the first time in history it became impossible to acquire fertile soil by simply traveling to it. As the population of the globe was meantime increasing by leaps and bounds, the disappearance of free arable forced a rise in the values of all agricultural land within reach of markets, giving to our wealth a new and incalculable accession, since our arable land, all of it near centers of population, was at once vaster, richer, and in better cultivation than that of any other nation. Thus the principle of unearned increment has wrought, with our energy and industry and with our country's

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native fecundity to pile up here, in a generation, riches past the wildest dreams of Cræsus.

Despite the increasing value of all bread-stuffs and meat stuffs, the wealth of the world is growing in such a way that demand for these is not likely to fall off, but is likely rather to increase for an indefinite time to come. Food is costing and will cost a little more each year, but the cheapening of wealth-producing processes in other departments will for a long time make it possible for non-agricultural producers to have all the food they wish, giving a little more non-agricultural commodity year after year for a given amount of agricultural material.

There can be but one conclusion from the above facts: namely, that the farmer, if he is wise, is destined to be better off and more influential in the future than he has ever been. Art and culture will pervade farm life and the farming public. Farmers' families will be better educated, agricultural states will more and more control legislation and public opinion.

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A vigorous country population is necessary in order to assure the highest physical health throughout the total body of citizens. It is equally necessary to the finest average character and integrity of the whole people, and also for the richest development of common sense, sincerity, large views, and patriotism. These qualities spring from Mother Earth. They are found in cities, of course, but usually because they are brought there. The strongest instances of them are not indigenous in towns. It is generally recognized that town life would soon grow pale and sickly, as well in moral as in physical regards, but for incessant importation of blood and character from the country. It is a matter of common knowledge that nearly all the men and women in the most commanding positions in society, business, literature, and life were born and reared in the country.

Over and above the preceding considerations, some of which apply to other countries as well as our own, there is a special reason for conserving and strengthening

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rural interests here in the United States. Europe was settled mainly under military motives, land going to great vassals of the king. All over Europe even today the great landowner is a more significant person than the great townsman, manufacturer, or banker. Socially, land-owning counts more than wealth in other forms. The blooded aristocracies of European lands all stand in some sort of connection with the proprietorship of land. It is easy to see that in the countries named there is an immense influence other than that of wealth operating against that of mere wealth. In the United States, unfortunately, we as yet possess no such counterpoise against the dead weight of Mammon. We need to raise up such; and the only apparent way, at least the best way apparently, to accomplish that result is to cultivate rural interests. Build up and keep up a country population worthy and able to determine our national character.

How can such a country population in the United States be reared? How can the landed interest be put in a condition to be



SIR HORACE CURZON PLUNKETT, P. C., F. R. S.,
Philanthropist, Economist, Publicist.

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felt as a solid factor in American civilization, always to be reckoned with, opposing in every appropriate way the rule of brute Mammon and the sway of those decadent and effete elements always so active in great municipalities? How can we establish country life and character so it shall be a beneficent safety valve, fly wheel, or governor to our vast social machine?

1. Good legislation is called for—directed not to the financial profit of the farming class, which would be class legislation and therefore wrong; but calculated in a large and enlightened manner to render stronger, happier, and more cheerful the people who live out upon the land and furnish the bone and the sinew, also in great part the brain and the character, of the American people. Laws in this spirit would not deserve condemnation as class legislation. Their fundamental aim would not be the welfare of a class. They would not have in view the good of the country for its own sake, but country prosperity for the sake of the entire nation, the idea being that

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the character, morality, ability, and consequently the safety of the nation, would immensely sink should the country population fall to the level of serfs or peasants.

2. The advantages to rural districts from perfect roads would be incalculable. The time is coming when in all well-populated sections travel will be so swift and comfortable that the entire population of a county can, daytime or evening, gather at the center as easily as such a crowd can now form in any city; when county centers will have churches, music halls, opera houses, schools, and all similar agencies of culture as good as there are in the world.

3. Country free delivery of mails will come immediately after roads are made good, so that newspapers and other intelligence by mail will not only speed across the country at the most rapid rate so far as railways extend, but reach destination from post offices with equal expedition.

4. Efforts for the establishment of country high schools have been made for a number of years. The need is a pressing

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one. Those interested in the cause are in earnest and may be counted upon to continue agitation until every boy and girl in country parts can obtain first-rate school preparation for the university or for life without tuition cost and without being obliged to leave home.

5. Vastly improved primary and grammar as well as high schools will come when rapid and easy travel over country roads is the rule. Schools will be concentrated at county and township centers so that grading can be made much more complete than now. A higher order of teaching talent will also be employed. Far beyond this in importance, grading and administration being equally good, country schools can be made immensely more instructive and inspiring than city schools. (On the superiority of country schools see, further, Chapter XI.)

6. The encouragement of all who can to build and live in the country, even if a part of their life must be in the city, will follow as a consequence of these improvements. A reflux of population from city to country

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will certainly occur when country roads are perfect, mail facilities greatly bettered, schools, concerts, churches, and other means of culture are as good in the country as in the city, and so on. But aside from these considerations, there ought to be a richer, deeper, and more general appreciation of the country than now exists. The country is beautiful, healthful, and every wise desirable on its own account. If people think otherwise, or do not think on the subject at all, it is due to their lack of culture. They ignore the works of God as stupid people might walk through the Louvre and not think of the matchless art creations upon the right hand and the left. The glory of the country ought to be taught, written up, and preached upon until enthusiasm for country living becomes deep and general.

7. Farmers themselves can assist to strengthen and enrich country life by doing farm work in a more systematic manner than is now usual. Too much farming goes by mere routine and tradition without the slightest application of scientific principle.

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How few farmers, for instance, keep books so as to know what profit accrues from such and such animal, herd, crop, or parcel of land! This methodless and unintelligent farming is responsible for much of the disposition shown by boys and girls to rush to the city. Young people with intelligence wish to cultivate their minds and are determined to do this. The farming which they have known doesn't ply them with that motive. Farming might be so carried on that young people's mental faculties and sense of art would be addressed by it far more than can be done by city occupations.

CHAPTER III

PASSING OF THE FEDERAL PASTURE*

NO group of men in the Fifty-seventh Congress dealt with more vital matters than the House Committee on Public Lands. These gentlemen made an effort to solve the question of protecting and improving the great government pastures, that these might grow more beef and mutton, and that suitable parts might in time be put to agricultural use. The problem involves conflicting interests, yet some action upon it is imperative. It is a national one, having to do with the price of meat in every American home.

Probably 400,000,000 acres of the public domain are at present fit only for pasturage. This does not mean that the soil lacks fertility, which most of it does not, but that the region is partially arid, the average rain-

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**CHARLES EDWIN BESSEY, Ph. D., LL. D.,
Head Dean and Head Professor of Botany, University of Nebraska.**

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fall being so distributed through the year, that while it suffices for range purposes, it is in some seasons not quite sufficient for farming. Much of this territory can be made fit for farms and homes, but there are in the United States many hundred thousands of acres which will always be better adapted to grazing than to farming.

That the life-supporting power of the government pastures is rapidly declining there can be no doubt. The high price of beef is not due entirely to the rapacity of packers. Public pasture is dying out. Areas which half a century ago grew vast herds of buffalo, antelope, and deer, and subsequently even more immense troops of cattle, are now almost a waste. Still ampler domains are approaching the same fate.

The range has been abused. Too many cattle and sheep have been kept upon it. For years "free grass" was to be had everywhere. Old settlers declare that when they first saw prairies which now appear barren as Sahara, grass there was from 1 to 3 feet high—this not only near water, but on the

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sides and tops of hills, and not alone in favored seasons, but generally.

Such luxuriance was not aboriginal. It developed with and after the extinction of the wild herbivora. But these, when most numerous, never cropped the prairie as is now done. Indians and the great carnivora seem to have nicely dressed the balance between herbage and herbivor so as to keep the prairie perpetually clad and whole. The "tragedy of the range" opened only with civilization.

A cowman, locating anywhere, assumed "range rights" to all he could see. When a second came there was, as a rule, a peaceful division, reminding of Abraham and Lot, water and grass being abundant for both. In like manner the two shared with number three, the three with four, and so on. The sheepman and the "nester"—the man with a hoe—had not yet appeared. Occupants were hardly ever owners. The fees of the ranges belonged to the government, or to railways, schools, or private individuals, but neither the owners nor their

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agents ever came on the ground. It was the vaquero's inning, and he scored very successfully till he was "out."

He was "out," in effect, when railroads were built, when homesteaders and other settlers made their advent. It presently began to be clear that what had been a perpetual surfeit of cattle food could not last. Hence competition, fiercer yearly and monthly, each ranchman being determined to make the utmost of his chance before it vanished. Every man on the ground bought all the cows he could, using his cash and his utmost credit, heedless of rates per cent. Outsiders crowded in and did the same. The danger of overstocking the range occurred to no one. Most localities soon had twice or thrice as many creatures as they could feed. An unusually dry summer or cold winter killed cattle as frost kills flies. Inhumanity to brutes was not the sole or the worst barbarism attending this regime. The struggle for pasture led to range disputes and wars. One twelvemonth 500 men lost their lives in range feuds. In

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places every bite of grass that cows got had to be saved for them by Winchester rifles. One old ranger said he was "tired of sleeping with a Winchester for a pillow."

The cattlemen of a county, a valley, or any neighborhood forming a natural unity, made common cause against outsiders. The Brown's Park Ranchmen's Association of Colorado, in a published resolution, claimed that "the pasturage by rights belongs to the people residing in the community, and that they, and they alone, are entitled to the use of it." The resolution added: "To deprive us of, or abridge our existing privileges is to take away from us our inalienable rights to the pursuit of health and happiness guaranteed us in the Great Declaration of Principles and Constitution of the United States, and we will hold as public and private enemies any man or set of men, in Congress or out, who will in any way change or alter existing range conditions or abridge our range rights in any way whatsoever to the use of the public domain."

There are always plenty of nomad herd-

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ers confining their stock to no locality, and not scrupling to ignore "range rights" wherever feed can be found. Sheep feeders are more commonly in this class. In 1902 a county in Oregon was invaded by 250,000 migratory sheep. Sheep men attempting such a raid from Utah into Colorado in March, 1900, found the way barred. Fifty miles of the state line was patrolled by mounted stockmen, armed with Winchester and ready to kill. According to press statements, the authors of the resolution just quoted enforced their bill of rights by the death of two sheep herders with their flocks, numbering perhaps 2,000 head. In another unpleasantness of the kind 5,000 or 6,000 sheep were driven over a precipice and piled up at the bottom, and three of their attendants placed on the mortuary list. In Wyoming, early in 1902, four men and some 2,000 sheep were killed.

Many of the most valuable grasses are annuals. Drastic feeding on them year after year leaves too little seed for renewal; finally, in places, none at all. Some of the

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best grasses have thus ceased to exist in localities where they once abounded—as if a farmer had used up all his seed corn or wheat, leaving none to start a new crop. Too close grazing in time destroys any grass. During long drouth cattle pull up grass by the roots. Grass is killed by trampling. Areas far from streams and springs have to be pastured. Herds are sometimes driven to water 15 or 20 miles daily or every other day, forming trails, each an eighth of a mile wide, where no forage can grow. Just so, a hundred years ago, buffaloes created highways which stage coaches afterward utilized. Water being scarce, cattle become weak, and though there may be plenty of grass—and that always the sweetest and most nutritious—some way from the watering places, the stock, preferring starvation to death from thirst, crowd near the water, consuming every sprig of vegetation there, and trampling the ground bare for miles in all directions. This effect is the worst in drouth years. Grass and water being then hardest to get, stock must travel

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greater distances between food and drink, treading to death square miles of precious forage.

When pasture becomes too poor for cattle, sheep are brought in, being able to live where cattle would die. Sheep easily eat herbage out by the roots, killing even perennial grasses. Goats, too, have been introduced, which destroy shrubs by nipping their foliage; and hogs, which dig up and devour the roots.

As the larger carnivora were exterminated, rabbits, prairie dogs, and gophers multiplied into serious plagues. Five jack rabbits or 20 prairie dogs consume as much grass as a sheep. Prairie dogs not only eat what grows, but spoil the land itself. There are prairie dog settlements having 2,000 or even 5,000 of the nuisances to the square mile, where sand, clay, and "gumbo" overspread and render useless all the good soil. Vegetable as well as animal scourges come in. While grass which cattle love is kept from seeding, the prickly-pear cactus, thorn bushes, shrubs, and weeds which they avoid

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have the right of way and multiply. Looking over a field thus abused, your "tender-foot" thinks the soil must be worthless, whereas it may be of the richest, having merely been forced by misuse to grow noxious instead of useful plants. Hundreds of square miles of invaluable soil have been overrun with the prickly pear, and the stand becomes more formidable yearly. Many counties estimate that the cactus plague has diminished their cattle-carrying capacity a fourth or a third.

Homesteaders taking up lands too dry for agriculture have added to the mischief by turning over and killing grass-clad sod, ruining good pasturage, and weaving no garment in its stead. Not seldom the dry soil thus denuded blows away, leaving gravel banks where earlier there was a noble covering of succulent herbage.

In many other places the best soil, bare, destitute of protection, and swept by the wind, has been scattered. At the same time, when no matting of vegetation overspreads a tract, its water-storing capacity is de-

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creased or destroyed. The rains which fall upon it, instead of being, as formerly, retained in great part upon or beneath the surface, roll off forthwith. Commonly they produce torrents, plowing great furrows or gullies, which deepen each year, and by and by are yawning gulches or canyons.

In these various ways, it has come to pass that extensive plateaus, once rich as gardens of the gods, are now in effect deserts. As the vegetable covering is destroyed the wilderness advances, the pasture retreats, the vicinity becomes more arid, springs dry up, and streams remit their flow. President Roosevelt's first message well describes the deadly effect of over-grazing in the forests, and the process is still more rapid and fatal on the shadeless plains. Some think that not less than 5,000,000 acres will thus be lost from the nation's range this year (1903).

Where desolation is not so complete you may yet be able to graze but 10 cattle to a square mile. A range of which 20 acres will feed an ox, is now considered rather

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fine pasture. Once 500 steers not seldom pastured on a section—about an acre and a quarter a head; in most such localities 10 or 12 acres a head are now required. The beginning of 1897 found the carrying capacity of the southwestern ranges, on the average, probably 40 per cent less than in 1880. Texas alone may have lost \$40,000,000 in this way; other states and territories, together, \$100,000,000. If the government pastures still bore as rich grass as covered them in 1880 and 1885, they would be feeding stock worth \$100,000,000 more than that at present on them.

The number of cattle in the United States is increasing, though it does not keep pace with the population. But the business is more and more forced on to high-priced land, rendering beef-production costlier than it need be. According to figures laid before the House Committee on Public Lands, April 16, 1902, the number of range cattle sent to market diminished 81 per cent between 1895 and 1901.

With due care the range can be made to

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recover its old fertility. It might easily be put in condition to fatten four head of stock to each head now grazing upon it. To effect this, regulation is needed. Some authority must be asserted over the pastures to prevent their abuse, to make it for the interest of occupants not to kill the goose which lays the golden egg. An end must be put to the blighting competition now kept up.

Regulation being established, pastures can be used in rotation, a period of rest being given each, during which the grazing and trampling of herds may cease, and grasses have opportunity to scatter and fructify their seeds. Barren places can be artificially reseeded and induced to yield herbage as of old. In localities better grasses than ever grew there can be sown and grown.

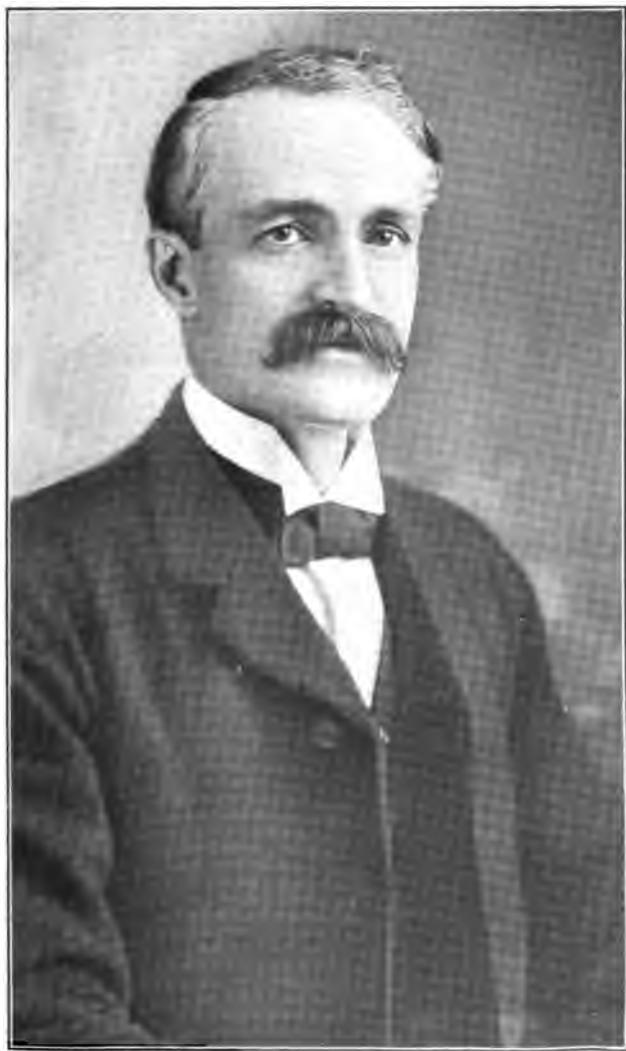
Such a recuperative process has been set going in other countries and in parts of our own. Australia has suffered the pinch through which we are now passing. Her great live stock industry was dying out; her

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exports of wool and of frozen and preserved meats dwindling. Ranges were depleted or destroyed, as now with us. Cattle "duffing," outlawry, range jumping, and quarrels were general. The men of that country faced the problem and solved it. A system of leases was devised, giving each grazer, for a term of 28 years, exclusive range rights upon his land. It became profitable for him to improve his holding instead of promoting its deterioration. The lessee cuts his domain in two, pasturing each part one year and resting it the next. In this way the whole pasture gradually improves in quality. Cattle multiply and thrive as additional grass grows to feed them.

Mexico and Canada have had a similar experience, and so, in our own country, have Texas and other states. The excellent control of cattle afforded by the Canadian system accounts for the present hegira of American cattle people across our northern border.

When all Texas ranges were open the same ills afflicted that state which now pre-



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GIFFORD PINCHOT, Sc. D., LL. D.,
Late Head Forester, United States Department of Agriculture.

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vail on free ranges elsewhere. In 1895 Texas passed a leasing law, since which time the improvement has been extraordinary. That state now produces fine range cattle. The longhorn Texan has disappeared, being supplanted by the Shorthorn, the Hereford, and the Aberdeen-Angus. Destruction of the range has ended, and rehabilitation is slowly but surely setting in. The average size of herds is less than under promiscuity, the number of cattle greatly increases, as also the number of individuals who profit by the cattle business.

The ruin of grass and soil is not the sole source of loss occurring through the drift system. One hardly less important relates to the quality of cattle. The drift system offers no motive for the improvement of breeds. When different men's herds continually intermix, no one owner will go to the expense of purchasing blooded stock. The tendency upon the free range in Texas and elsewhere has always been to produce the sorriest specimens of cattle which could live—long horns, large bones, the maximum

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of waste in each carcass and the minimum of valuable cuts.

On the other hand, where segregation has been established and each several proprietor can govern his own stock, excluding other people's, extraordinary improvement in cattle types uniformly occurs. Pure-bred Hereford, Shorthorn, Aberdeen-Angus, and Galloway males are at great expense purchased for range use. Colonel Slaughter of Texas is understood to have paid \$5,000 for Ancient Briton, the Hereford winner at the Chicago World's Fair. This valuable bull he placed on a Texas ranch with high-grade or pure-bred cows, to produce brood animals for the ranges. He is said to have paid the same sum for a similar purpose for another Hereford bull, Sir Bredwell. A thousand dollars is not infrequently given for a range bull, though \$500, \$300 and \$200 are more usual prices. The close pasture system not only enables proprietors to afford such creatures; it makes possible some approach to "breeding by hand"—i. e., using each male each time under a herdsman's

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control, thereby, every pairing season, saving innumerable bull fights and also, otherwise, in both sexes of the cattle, an immense sum of valuable vitality now lost.

Better care in every respect can be bestowed on a segregated herd. Mange and other diseases can be stamped out or kept from spreading, which, if all the cattle run together, cannot possibly be arrested. A grazier controlling a first-class range can afford to make ample water provision for the whole year, as well as lay up hay and other stover for use during the severe months. Indeed he cannot afford to do otherwise. If springs are fickle, wells are bored. Cattle need never travel more than five or six miles to water. This saves the trampling of forage. Weak and sickly creatures and calves receive attention.

A good range of this order is supplied with a barometer, which the foreman studies as assiduously as a captain at sea. At the first sign of a blizzard the cattle are rounded up in the vicinity of the stacked fodder, so that when the storm breaks, no matter how

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severe, not a calf need perish. Over-stocking is prevented and some measure of rest secured every few years for each parcel of the range.

It is sometimes excellent policy for a cattle man to borrow money upon his stock. If the herd is under surveillance, bankers are quite willing enough to discount notes on such security. They, however, naturally refuse to loan upon a mixed and drifting herd, elusive as so many fish in the sea, containing "mavericks" and cattle of various brands, the number bearing any given brand being ascertainable only with difficulty, if at all.

Studies made the last few years by experts in the Department of Agriculture show beyond peradventure the possibility of regrassing any range so soon as stable and authoritative control can be established over it. Under stability the old days of rank vegetation will return. The wilderness will blossom as the rose better water facilities will be possible, weeds and animal pests will be kept in check, the

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best native grasses and forage plants be cultivated, and new and improved sorts be introduced. Thus renovated, the ranges may indefinitely continue to be as fine grazing land as there is in the world. Governor Richards of Wyoming estimates that pasture lands which he has leased and fenced produce today 100 per cent more grass than when no one had any interest in cherishing them. There is voluminous testimony to the same effect.

A few years since, after a severe drouth, one rancher plowed fire-guard strips, each 4 or 5 feet wide, across his land every 40 or 50 yards. Fortunately the range was not burned. Early in the fall millions of needles from the needle grass had blown over the pasture and planted themselves in the broken ground. Other grass seeds had also caught there. Next summer those fire-guard ribbons were thickly seeded with fine grasses. From these beds the spaces between the ribbons were reseeded, so that the second summer the entire range had markedly improved.

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Plowing in the way described is not necessary. Bare spots may be simply harrowed, and seed from valuable grasses sown on them when wet. Spots can thus in a short time be covered with the best grasses, and these will, a little later, overspread and reseed the whole. Even harrowing may be dispensed with if sowing occurs just before or after a rain, or when a thin snow covers the ground.

The advantages of herding under control are so decisive that control has for a number of years been in actual exercise on public ranges. To secure or facilitate this, millions of acres of government land have been fenced—contrary to law, but to the immense advancement of the cattle industry.

All meadows, all patches clearly suited to cultivation, all springs or other natural water privileges, indeed all the best grazing lands, had been taken up and were owned by settlers. A settler might own a quarter section producing hay, and two miles away another section equally good, the two, however separated by sandhills with "blow-

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outs," where the wind had whipped loose sand from certain spots, leaving great cavities, and piled it up elsewhere. Such intervening land being absolutely useless save for the sparse feed upon it, and unavailable to an outsider for lack of water, what more natural than that the man should fence across from one freehold to the other? He would then sell four-fifths of his saddle horses and buy registered bulls with the money, and have his cowboys raising hay in place of raising "hell." Such obvious gains soon made fencing more or less general.

Thousands of miles of fences had been built prior to the "no fence" law of 1885. By sufferance a large part of these remained till 1891, since which time the Interior Department has been insisting on their removal. In response to innumerable entreaties a reprieve was granted—first till April 1, 1892, and then till July 1. The Department has since been making every effort to execute the law.

It being evident that the government was resolute, influential cattlemen began plan-

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ning for a federal leasing law like that of Australia or of Texas. Several drafts of lease laws have been before the House Committee on Public Lands. The "cattle barons" and great cattle companies are not suppliants for leases. Such are sufficient unto themselves. They can isolate their herds, thus securing the advantages we have described without the expense of fencing. A stockman rich enough can hire his little army of cowboys with their necessary outfit—round-up wagon, and so on—for his herd, asking no aid from any outside source. He can ward off nomads and, if so disposed, plague settlers. It is the herdsman of ordinary means who would be glad to lease.

The purpose of the various bills is to hold United States grazing lands for homesteads so far as they are or can by irrigation be made suitable, meantime renting these lands at an equitable rate for grazing purposes—any part of a leased tract to be at once cut out of the lease whenever entered upon for homestead purposes.

Numerous and earnest objections are

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made to the leasing scheme, whatever its form. The nomad herdsmen, of course, object. They enjoy government pasturage free, and do not wish to pay. Opposition is offered by some cattlemen who have, contrary to law, fenced government land, are utilizing it free, to the exclusion of their neighbors' herds, and desire to continue this monopoly. Most cattle owners, however, who have fences favor a leasing system.

A small class of opponents are settlers who do not make a business of cattle feeding, but simply own a few head, which they brand and turn out upon the prairie practically without care. In good seasons their cattle are a source of profit; in bad seasons droves of them die.

Most sheep feeders oppose leases, their principal reason being that sheep like to expatiate over a greater range and variety of territory than cattle, and cannot, year in and year out, be profitably fed on a restricted area.

The above grounds for protest would probably give Congress little pause, but

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there is one objection which must be admitted to be serious in the extreme—the fear that leasing would interfere with the taking up of homesteads. Even if allowed by law to enter upon leased land at option, and have it immediately left out of leases, homesteaders might not care to encounter the opposition of powerful lease holders by trenching on their preserves, so that the homestead right might, in spite of the law, be in effect a dead letter.

This, all admit, would be a lamentable result. In his proclamation of August 7, 1885, following up the “no fence” Act of Congress approved the preceding February 25th, President Cleveland declared: “The public policy demands that the public domain shall be reserved for the occupancy of actual settlers in good faith, and that our people who seek homes upon such domain shall in no wise be prevented by any wrongful interference with the safe and free entry thereof to which they may be entitled.”

Few, probably, are aware of the rapidity with which homesteading is now going on,

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of the avidity with which somewhat arid and forbidding tracts are seized upon and settled. In the domain covered by the lease-bill drafts no preceding year witnessed so many agricultural settler entries as the fiscal year 1900-01. That year, on the territory referred to, 53,654 original homesteads were taken, covering 7,874,000 acres, and 27,904 final homestead entries were made, embracing 4,135,819 acres. Here were 81,558 persons, most of them heads of families, making homes.

Vast portions of the public domain long thought unfit for cultivation are now profitably tilled even without irrigation. Other considerable sections are irrigated into fertility, by private effort, from streams or by artesian wells. Intensive culture, now coming to be understood, turns other semi-arid regions into blooming farms almost irrespective of rainfall. Every patriot wishes these processes continued.

However difficult to frame a leasing law which would not hinder homesteading, such a feat seems not beyond human skill. It

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were a mistake to suppose that, generally, the interests of cattlemen conflict with those of agricultural settlers. In the main the reverse is the case. The ranch business affords the neighboring farmer his best if not his only market for hay, grain, butter, milk, chickens, eggs and vegetables; all of which most ranchers prefer to buy rather than produce for themselves.



THOMAS LYTTLETON LYON, Ph. D.,
Professor of Soil Technology, Federal Experiment Station,
Cornell University.

CHAPTER IV

SUNSHINE FARMING

THE first map of the United States which I ever studied represented nearly the entire region between the Missouri and the Rocky Mountain crest as the Great American Desert. It is wonderful how the influence of the old map endures. Many of our countrymen still seem to think of west Kansas and Nebraska and eastern Colorado as one vast sandbank. Certain it is that multitudes regard this tract as now, henceforth and evermore, just a great ox-pasture, not a dead waste like Sahara, worth mentioning as part of our country's domain, good hunting-ground and helpful in keeping down the price of beef, but destined never to become a land of homes.

Of late a few, more enlightened, so far modify this view as to admit that some part of what was once accounted desert will be brought under culture by means of irrigation. Even such usually take no account of

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windmill or gasoline engine irrigation, more and more in vogue, and certain to add in time millions of acres to the cultivable portion of American soil, or of elevated reservoirs and lakes independent of rivers, helping the work of irrigation, or of that economy in the use of irrigating waters from which as much is to be hoped for agriculture as from the mighty arm of government now exerting itself to impound our rivers in aid of our fields. We have learned that in the use of water to raise crops, enough is not only as good as a surfeit but a great deal better. Instead of sloshing on water in a field because we have plenty, we now save the surplus for new acres elsewhere. Independently of the "dry" culture, of which I shall speak presently, a little water will go a great way.

But the majority, even of those who know all about irrigation in every form and also understand the meaning of the economies which are possible and sure to be exercised in the application of irrigating waters, take these improvements as the limits to the ex-

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tension and triumph which agriculture can hope for in sub-humid America. Pierre Leroy-Beaulieu in his very entertaining work, "The United States in the Twentieth Century," voices the current view. He says: "Crossing the Mississippi the amount of the annual rainfall rapidly diminishes. From 375 to 500 miles west of the river, following a line almost identical with the 100th parallel of longitude, it becomes less than 20 inches a year. The irregularity of the rainfall and the consequent long drouth effectually prevent the cultivation of the soil, except in some privileged sections and in valleys susceptible of irrigation. This is the so-called 'dry lands' region, which embraces the tablelands of the Rockies and the western portion of the plains, for a length of 1,250 miles north and south and a breadth of 750 to 800 miles east and west. This represents about a third of the territory of the United States—or a surface five times that of France. Almost half of the region in question is quite arid, and is made up of deserts that extend over the tablelands of Utah,

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Nevada, and Arizona, the southeast of California, a large portion of New Mexico, and parts of neighboring states."

"The semi-arid zone is overrun by vast herds of cattle, which would be even more numerous did not the rigor of the climate restrict their development. I frequently heard it stated that in these parts of the country the cultivation of cereals has been pushed too far to the west. . . . Many farms devoted to these products have had to be abandoned." "That it (the western division) holds any serious place in the economic life of the United States is due simply to the richness of its mines." "The western half of the two Dakotas and no small portion of Kansas and Texas are almost unavailable for agricultural purposes by reason of drouth."

This remarkable book by Leroy-Beaulieu nowhere hints of any advance possible to agriculture in the semi-arid domain save by irrigation. The author notes, of course, that our agriculture everywhere, west and east, could profitably be made more inten-

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sive, but he reveals at no point any insight into the possibility of lessening the dependence of crops upon rainfall.

I quote this distinguished French economist, not to criticize him, but because he expresses better than any other single writer the opinion prevalent in our own country, even right here in the West. Leroy-Beaulieu's thought in the premises, in fact, simply follows the report accompanying the last United States census.

N. H. Darton presents the same in the United States Geological Survey preliminary report on the geology, etc., of the great central plains. He says of this region: "To the east the precipitation is ample for crops. . . . while to the west there are broad tracts in which no crops can be produced without irrigation." He does not here refer to the extreme southwest of the United States, where the rainfall is under 7 inches, but to portions of the 10-20-inch area, meaning, obviously that wherever precipitation does not suffice under ordinary

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modes of farming there is no resource but irrigation.

The thought is, and it is all but unanimous, that profitable farming in non-irrigable areas is absolutely dependent upon precipitation, so that, if this falls in any place much short of 30 inches yearly, no matter how rich your land, your alternatives are cattle husbandry, travel or death.

The Indians carried the same essential theory a little further, never attempting to coerce Nature, but always acquiescing in her gifts, however niggardly. If game, grass, corn or water is not found, or not enough of it, in a region, move on; seek other homes where Nature is more generous. The breeding of game, the improvement of grass or of grass land, the conduiting of water, the domination or subduing of Nature in any form was above the savage intellect. Such ideas and the processes realizing them are the marks of civilization.

Another insight of civilization is beginning to emerge, namely, that agriculture is not only considerably independent of rain-

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fall, but can in low-rainfall areas dispense with irrigation itself, that sub-humid farming is not shut up to irrigable valleys here and there, or to windmill and gasoline lifting from under ground, that holders of semi-arid farms not irrigable are not confronted alone by the alternatives of stock-raising, travel or death, but have a chance for life and prosperity as farmers right there on those semi-arid farms not irrigable.

The resources that promise and are beginning to effect this deliverance are two: the importation and the breeding of drouth-defying seeds and crops, and water-hoarding and water-holding methods of culture—for short, “dry culture.” Hardy seeds and grains will by themselves effect much: dry culture by itself will. Both devices together will turn wildernesses into gardens of plenty.

The discussion of the anti-drouth victories securable through the breeding of hardy seeds and by planting rugged instead of feeble crops it is not my purpose to take up now. Suffice it to say that aridity can

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be overcome by these means to a very great extent, as is amply evinced by the history of Kherson oats and macaroni wheat and by the wonderful achievements attained in the breeding of seeds for all sorts of purposes; within very large limits you can create in seeds and so in crops whatever powers and properties you please. In corn you can, by a few years' breeding, increase the oil, the starch, or the protein six, eight or 10 per cent, and probably more. The ability of a crop to withstand drouth, to get on with minimum water, can be increased in the same way.

Mr. H. W. Campbell has made a discovery worthy to rank him with Watt, Hudson, Eli Whitney and Edison, that of so storing up water in the soil to be cultivated as to make a very meager precipitation suffice to grow a crop, and that with no irrigation.

The principle of Campbellism is simple. Disk the soil as early as possible in spring so as to turn under all the moisture winter and spring have left, and to put the surface

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in shape to catch and hold all coming later. Then often enough to prevent any part of the surface becoming a crust, incessantly, until the crop is a foot or more high, harrow or agitate the surface soil, keeping it in the form of a mulch. You thus entrap every particle of moisture from sky or air, and at the same time, by foiling capillarity, imprison the water below and keep it from evaporating, or rather, force it, if it gets out into the air at all, to escape through the trunks or branches of the growing plants, giving up to them its life.

To produce an acre of clover or potatoes at least 400 tons of water are needed for the season. For peas, wheat or oats 375 tons will do; for corn, 300. Sunflowers require 6,000 tons a season-acre.

The main ends which the process is meant to attain are two, the impounding of water and the retention and right use of it after it is impounded. Get the element under cover and then retain and employ it instead of permitting it to "waste its sweetness on the desert air." Box the liquid and then

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keep the lid on. Let us examine each of these two desiderata with some care.

When a field is left to the mere play of the elements, a falling rain may fail to sink into the earth at all or to be of any advantage whatever to herbage growing there. Usually it would, if of any volume, do a little good, but it would at best accomplish but a trifle of the benefit within its power if housed and husbanded. Part would at once run off into ditches and brooks, another would form into little pools over crusted earth and forthwith evaporate. Still another would sink 1, 2 or 3 inches, only to be hunted out in a few hours by sun and wind and driven off into the air. The areas of feeble rainfall are always areas of fierce winds and of glaring and ample sunshine, both powerful evaporating agents.

The U. S. Geological Survey Report to which I have already referred, says, "The amount of water that falls in the arid area is enormous when the number of cubic feet to the square mile is calculated, but much of it comes in very heavy showers, after long



1. Dry Farming Spring Wheat, North Platte, Nebraska.
2. Norman Smith, Covington, Tennessee, Boys' Corn Club Winner.

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intervals of drouth, often with severe hot winds. If a portion of the rainfall could be stored much of it could be used for irrigation. Evaporation also increases rapidly in amount, from east to west, in nearly inverse ratio to the precipitation. Its estimated amount is 3 feet in the eastern portion of the region and 6 feet in the western, including the mountains."

Now suppose that when the rain descends it finds the soil, especially at the surface, in perfect and splendid tilth, open, porous, friable, thirsty, with no crusts or lumps anywhere. Unless it forms a deluge, a cloudburst, the water is out of sight at once, no run-off and next to no evaporation. It is stored in a government reservoir provided by the government of the universe for this express purpose, which, if you guard it well, will answer as completely as any of those the United States is erecting at so great cost.

So much for "bottling" the water that falls; now how shall we keep the cork in against those inebriates, Sun and Wind, ever at work to suck it up and drink it?

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The answer is, in brief: Kill capillarity at the surface by keeping the top soil continually in the form of a mulch.

Hold the extreme edge of a sugar lump in water and see the moisture walk up through the lump as if gravity did not exist. The force called capillarity is acting, the same that lifts oil up a wick, the same that raises bottom water in a sandbank so that it is always moist to within a few inches of the top.

Permit the surface soil to become hard and capillarity plays right into the hands of sun and wind, emptying the earth of its moisture at a fearful rate. Annul capillary action at the top and you keep the water juggled. Annul it *at the top*, observe. Lower down you do not want to interfere with it even if you could. You wish to promote it in every way, that the far-down moisture may, as wanted, come up and bathe the seeds you plant and the rootlets and roots they put forth. Free capillarity below is a necessity. That is largely what we plow for. But cap-

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illarity at the top is our foe and must be killed dead.

It is interesting to remark that, in the main, the same culture processes which assist percolation or the jugging of water also act favorably, helping capillarity below, breaking it at the top. At any rate no act which furthers the jugging hinders the retention, and *vice versa*.

You therefore double-disk in the spring as early as snow and frost are gone. Plow pretty soon after, deep if the soil is heavy, and deep every third year even if the soil is light. Then go over the ground with the sub-surface packer, an arrangement of 18 or 20 sharp-edged wheels rolling parallel to each other, pressing the soil partly downward and partly sidewise, so as to crush all crusts and lumps and fill all hollow spaces at the bottom of furrows or elsewhere, making the soil firm while porous. A roller and then a light harrow immediately follow, the same day at any rate, and, if hot or windy, the same hour. From this moment on, at frequent intervals, and especially

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forthwith after every rain, harrowing or cultivating must be incessant, not only to mulch the top soil, interrupting capillarity, but also to kill all weeds, for weeds perniciously use up your precious moisture as well as the nutrition needed by your crop.

The above are the absolutely essential principles of the dry-culture system. There is another consideration which, though subordinate, is of no small importance. I refer to the creation and maintenance of humus in the soil. Humus is immensely valuable as a holder of moisture. It is a sort of sponge, taking in water and retaining it.

Normal prairie is rich in humus. This is why it will carry crops through a drouth that would be fatal to them on older soils. For centuries the grasses on our great prairies grew up and died annually. The dead grass partly rotted where it fell and rains washed it into the earth, where the decomposition was completed. Roots, too, died from time to time and decayed. This is the way the primitive humus of the plains was formed, a provision of Nature for massing

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water for use by plants in dry times. We are to conserve this provision and to increase it so far as possible.

Humus is, of course, invaluable, practically indispensable, as an agent of fertility. The fertilizing mineral elements of the soil are not directly available for plant nutrition, but must be first taken up and transmuted by the acids of the humus into soil foods, humus being, as it were, a bridge from the mineral ingredients of the soil to the organic portion usable as nutriment.

Every effort to produce and conserve humus would therefore be in place were fertility the only concern, but such effort is doubly necessary in semi-arid cultivation where moisture is so beyond price. Humus also binds the soil together, acting as a prophylactic against the wind, preventing its blowing away the best part of your ground.

Manure of any sort mixed with the soil and decomposed forms humus—better when supplementing plowed-under grass, clover or alfalfa. The humus-making value of these forages is immense—far beyond what

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most farmers appreciate. Even if your crop returns are regular and good, a pretty frequent seeding to clover or alfalfa is desirable and will in the end prove indispensable.

I have thus laid down, as completely as I could in a brief space, the fundamentals of the dry-culture system. Much further discussion of it is possible; details could be given; criticisms, queries and replies attempted. I myself have a few further suggestions to offer.

I pause at this point, however, to remark that whether or not the system is as deserving as its foremost advocates claim, whether its future is to be dazzlingly luminous or only ordinary day, it is certainly deserving and it certainly has a future. I say this absolutely without prejudice. I have not a cent's worth of financial interest, direct or indirect, in the plan.

A further remark of the utmost significance relating both to the irrigation and to the dry-culture sections of our country is here in place: that agriculture under these

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conditions is some day to be the typical and most successful of all agriculture. No over-wet seasons or periods occur, such as in humid areas destroy crops outright or ruin their quality. Harvest weeks are sunny enough for the work. Farming loses its gambling aspect as much as manufacturing. This feature will enable rural pursuits to command and retain first-class talent to a greater extent than is now the case.

Critics maintain that dry culture is costly—expensive in human labor and in team power. Friends admit this. It costs more to farm as above described than it does to farm in the usual way. But, friends add, and I think them perfectly right, the extra returns assured by the method outlined will vastly more than pay for the extra expense.

As a matter of fact nearly all the procedure demanded by dry farming is desirable and would be remunerative under plentiful rainfall. There is, however, hardly a section of our Union where the farmer can be sure, any given season, of sufficient moisture from above, whereas, if he has plenty in the

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natural cistern below he can view a long succession of sunny days not only with composure but with glee. In any event it is a great thing to possess control of your water supply, that moisture may be applied with regularity instead of fitfully as Nature so often applies it, tempests and drouths alternating.

I introduce, in conclusion, a couple of problems relating to "Campbellism," touching which, it is just to say, some difference of opinion exists among experts.

The first is this: With how little rainfall can dry farming be successfully carried on? Obviously there must be some precipitation or else this form of agriculture must fail, must give way to irrigation when that is possible or cede the field to cattle or despair. No one advocates dry farming for southern Utah and Nevada or southeastern California, where, over vast ranges, only 2, 3, 4, 5 or 6 inches of rain fall in a year. The fall must be greater than this or you must irrigate.

Good authorities maintain that water

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equivalent to 12 inches of rainfall must pass up through the stalks of an ordinary wheat, rye, oats, or grass crop out into the air in order to mature the plants—12 inches, even if none evaporates in vain, and more than this through corn.

When good crops are ripened under less than 12 inches of rain, the capillary action made possible by the proper preparation of the land, or capillarism helped by such pressure as lifts water in some artesian wells, has been able to draw up subterranean waters within reach of the plant roots. This explanation is reasonable, as the operation described does doubtless go on in very many fields. In other words, it is possible that a rank crop requiring 12 inches may grow under a precipitation of but seven.

It does not follow, however, that dry culture can be triumphantly practiced in all places of but 7-inch precipitation. Whether it will do in such a locality will depend on the presence not too far underground of Dakota sandstone or other aqueous rock. Such aqueous substrata are near enough to

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be available in very many localities, but they are not available everywhere. If, therefore, precipitation falls much below 15 inches the precept would be: Prospect for subterranean water. If you find none or find it only very far down, you must irrigate.

The other moot point which I will name relates to the practice of fallowing land, letting it rest every other year, diligently cultivated all the time, but without planting or sowing. This usage Mr. Campbell recommends for areas of low rainfall as a means of massing two years' rain for use in a single year's crop. Such massing is by proper cultivation to a great extent possible. Moreover, where it is necessary—that is, in regions of very scanty rain—it would, so far as water supply is concerned, be also desirable.

But fallowing with Campbellite culture, while nobly conserving water, appears to waste fertility, particularly nitrogen, which rapidly escapes from a naked surface, while crops of clover or alfalfa draw it from the air and store it in the soil, being a net benefit



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HARVEY WASHINGTON WILEY, Ph. D.

Late Chief Chemist, United States Department of Agriculture.

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thereto and not a net drain. Bare fields are also a prey to winds that carry away valuable soil. Fallowing, therefore, is a doubtful policy, except in the rare cases where irrigation is impossible, and a single year's rain by itself enables you to raise no paying crop, while two years' rain will suffice for this. In such localities fallowing might be wise. It would mine the land and at last ruin it; but, you would say, arid soil that cannot be irrigated might as well be robbed of its fertility and its top soil blown away once for all, and agricultural hope for the locality given up forever.

CHAPTER V

HEALTH AS A DUTY

THE pairing of these words "health" and "duty" may at first seem queer, but we hope to justify it.

Some people hardly prize physical soundness for any reason. They seem literally to "*enjoy* poor health." Among such as duly prize health the majority probably prize it not because they think they ought to, but as an exercise of legitimate selfishness. Their desire to be well is reflex and spontaneous, not reasoned, not an affair of motives in any way. Like the will to live, it is neither moral nor immoral, but simply non-moral.

That merely vital, non-moral prompting to health is a fine thing. We would not lessen it. If it possessed the entire public in due degree these remarks would be quite superfluous. They might even be mischievous, for a natural impulse is not seldom weakened by analysis and introspection, as

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a man may be made dyspeptic by studying stomachs. A house good for a century may be rendered rickety in every wall by picking out its original foundation to put in a new which is better.

We despise all mere fussiness regarding health as heartily as any man in the world. It is said that the distinguished English preacher, Robert Hall, when he was somewhat advanced in life, would every little while grab at various portions of his anatomy to make sure paralysis had not struck him. It is said on good authority that usually when paralysis actually does overtake a man he doesn't need to investigate.

Even physicians, wise as they are, sometimes take a shadow for a lion.

A curious document has been preserved in the archives of the Nuremberg-Furth railway, the earliest of the German lines, opened in 1835, which relates that on December 7, that year, a special "Kollegium" of the Bavarian physicians was summoned to discuss the medical aspects of "the new method of traveling by steam machines."

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The assembled doctors arrived at a nearly unanimous conclusion that a too frequent use of rapid transportation would produce among the unhappy passengers an unprecedented increase of the malady known as "delirium furiosum." "Even if it be conceded," said the physicians, "that the travelers voluntarily expose themselves to this danger, and that the state ought not to interfere with personal liberty in such a matter, we nevertheless feel bound to advise, by virtue of our calling, that the state should at least interfere for the protection of the onlookers. We are confident that the mere sight of a steam locomotive dashing along at the extreme of its speed will be sufficient to produce this fearful malady in persons of a nervous and susceptible constitution. We therefore humbly advise the public authorities to require that walls shall be erected on each side of the railway track not less than 6 feet in height."

But moral and religious exhortation in aid of health should not be considered fussy. Every community contains ailing men and

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women who are capable of health, yet rarely possess it for any length of time, apparently to a great extent because they never think of health as obligatory. Our words are for such. Many of the persons meant are in most matters highly conscientious, but in this particular their consciences are asleep, untrained, or seared. We would reason with those sinners, reinforcing whatever merely vital desire for health they may possess with appeals to their sense of right and wrong. Particularly would we attack the medieval vice, which still affects many who do not avow or perhaps suspect it, of supposing that we somehow elevate the spirit by snubbing and flogging the flesh.

It is our duty to possess physical vigor if we can, whether we delight in it or not. Unless that is a duty there is no such thing as duty. Health is within our power to a much greater extent than most suppose. Even congenital complaints can often be cured. Other troubles of the kind born with us, though not curable, can be greatly alleviated. In persons not diseased at all,

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the life processes may be improved in tone, producing solidier and more perfect specimens of the race. The resultant men and women will average to live more years owing to the care exercised. Each year they stay on earth will be happier. They will be more efficient and useful. They will impose less care and expense upon friends. Their fellowmen dealing with them will find the converse pleasanter. Offspring, if any, will be worthier to exist.

Health is important that we may live, think, feel and act strongly so long as we live, think, feel and act at all. To say that life ought to be is equivalent to saying that it ought to be as whole and virile as it may. If we are puny and ailing, unless the defect springs from causes beyond our control, we are guilty. Let life be short if it must, but let it be full. While our blood runs let it run red and swiftly. Men and women who mostly dawdle might as well be dead. They effect little toward any end for which human existence can have been meant.

Even religion, spirituality, proper prep-

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aration for heaven, calls for health. The most orthodox nowadays, think saintliness to be of little account unless it is of the active order. Christians, let us hope, more and more incline to model after the Great Saint who went about doing good, rather than after saints who simply sit still and mope, meditate and pray.

In any calling you will find that the active, efficient men, the men who bring things to pass, are those physically the strongest, ablest to work long hours, and yet carry their faculties fresh to the end. Study Congress, for instance; seek out the influential members there and see if the rule announced does not hold. Then go to any of the great trusts or massive businesses characteristic of present industrialism. You will find the leaders to be men of Herculean physical vigor.

Obviously this must be the case more and more as life grows increasingly complex. Massed industry is henceforth the order. To attain important position in any depart-

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ment of it one must be able to endure like a Titan.

Someone will object that valetudinarians now and then accomplish great things. A few such can no doubt be pointed to; but if you inquire carefully you will in nearly every case find the fact to be about this: Some initial frailty in the man led him to take such excellent care of himself that after a time, though apparently feebler than most, he was really tougher and heartier than most. The occurrence of influential valetudinarians does not disprove our reasoning, but rather confirms it.

Health is an inconceivable aid in intellectual activity. It gives sweep, compass and volume to mental work and mental stores. When perfectly well we learn longer lessons, master each point more easily and thoroughly, and remember better. Brain will not do its best if blood is impure or stagnant. When you are ill the mind wearies easily, mental exertion being a drudgery, and therefore relatively valueless even while it continues. Reasoning be-

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comes confused, trains of thought needing repetition after repetition in order that you may be sure of them. One reasons well only when one digests well. Mental peristaltic motion waits upon bodily peristaltic motion.

Good animality is absolutely indispensable to sane thinking. Judgment is the noblest and most important among mental functions and it is notorious how dependent it is on good bodily condition. How many cranks are so because of lymphatic difficulties!

Health is needful not alone that we may do with our might what our hands and minds find to do, but also that we may fulfill all our functions with ease, smoothness and grace. Next to vice and crime the greatest curse afflicting humanity's lot is men's crabbedness. How few efficient men are courteous! People are seldom at the same time frank and kind. Some are too cowardly to tell you what they mean; others indeed, keep back nothing, but bellow or bray to you instead of speaking.

This oburgatory temper and manner so

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common among men, nearly or quite always has its seat in ill health. Liver, stomach, nerves, the blood—something, some part or function of the physical organism, is out of gear. The fire flies because of grit in the bearings. Even if you make much of men's depravity, alleging that some are grumpy by nature, the evil based primarily not in the body but deeper—in the spirit—you must admit that even in such cases ill health gives it its damning malignancy. The custom of sending medical missionaries along with other missionaries to the heathen world has a significance beyond what appears. A health agency is not the veritable Gospel, but it is the Gospel's best possible ally.

Men need health in order to that inward tranquillity, calm and balance so indispensable to soul growth as well as to physical or mental enterprise. So congested have the avenues of life become in these latter days, that mental poise, serenity, the peace that is like a river, are well-nigh impossible at best, and they are quite so if bodily pains or weaknesses help distract. To commune



**Hereford Bull, Grand Boy, owned by the University of Nebraska.
Katy Gerben, Holstein Cow, owned by the University of Nebraska.**

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with oneself or with God is vastly more difficult now than in Abraham's day.

Health builds up and sets forward our moral energies as much as it does our bodies and minds. It breeds courage and will-power, lack of which is often the sole reason why men do wrong or fail to do right. It furthers self-discipline and self-control, repressing vices and physical excesses, partly by giving rational vent to surplus physical force. It is favorable to a sense of fairness toward one's fellows, thus making for co-operation between men and men.

Nor is this at all refuted by the fact, if it be such, that funny men sometimes live out but half, or, say, six-tenths of their days. One time when Grimaldi, the great comedian, was making all people split their sides with laughter over his witticisms, a patient presented himself to Dr. Abernethy, the celebrated practitioner. The man was dying of ennui. "Go and hear Grimaldi," said Abernethy. "He will make you laugh and that will be better than drugs." "My God," exclaimed the invalid, "I am Grimaldi!"

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Emerson, in "Society and Solitude," tells the same story of Carlini.

A joke-wright may certainly die of the blues, but his blood will be the seed of the church. Our conviction is that if perfect physical health universally prevailed, nearly all men and women would come so near being angels that building lots in the promised land would be in danger of slumping in value. Who would not be glad to initiate such a "bear" movement? Not to mention the delight of living in a society where none ever pouted, or whined, or scolded, or made wry faces, or vociferated, or swore, consider the delightful ease with which business would go on then, and the greater amounts of it which we could turn off in a given length of time. As a promoter of the world's work model health would rank with inventions like the steam engine, the telegraph and the telephone.

Health, of course, tends to long life, and this is certainly a consideration of great moment. There are, we know, many to whom length of days does not seem impor-

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tant personally. When we find that life does not redeem its promises, that men are mean, false, self-seeking, and merciless, that to succeed here below you must call the little great, the sham genuine, and appearance reality, the heart-wrenching disillusionment drives us to long for a world of more righteous judgments and awards. Few lives, and no great ones, are spared this bitterness. You strove for earthly good—gold, honor, position, prosperity, and enjoyment—and you found, like thousands before you, that these objects cannot satisfy the heart. You let imposing things deceive you; beauty and truth you sought to gain by chasing them; and now after many a long and devious race you are deceived and in despair. Once you marched forth to fight for right and freedom, but you grew weary, yielded, and made your peace with the world. This disillusionment, too, impels one to long for a higher life, for redemption from such vanity, woe and death. Existence seems illusory and cruel and the weary soul cries with Goethe:

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"Ceaseless ache! inane endeavor!
What boots all the fierce unrest!
Peace like a river,
Come, oh come and fill my breast!"

But from a social point of view it is certainly desirable that any life having value should continue so long as its efficiency remains. The ingenuous man, though not prizing length of days as a good to himself, must still cherish length of days that he may perform maximum service for his kind.

When society has matured a man, educated him and succeeded in imparting to him a certain value power to enrich men's general estate, it cannot but be a pity for his life to end in the midst of its prime and vigor. His gain, if death prove such, must be society's loss. He should solemnly vow, as did one of old, "All the days of my appointed time will I wait, till my change come."

Health is required that men's blood may contain the necessary iron—that we may possess the hardness or hardiness of good soldierhood—grit, sand. We should rather

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nurse cold steel in our own heart than have an enemy drive it there.

Are not cultivated people growing too sentimental; too timid about inflicting pain on animals, children, themselves, and others? The common argument against war is sound; but is not the common sentiment against war mostly a downright weakness? Is not anti-vivisection sentiment the same? And do not these phenomena indicate a very serious lack in our moral character as a nation? Would not a sterner nation in competition with us, other things being equal, get the better of us?

It seems to us that hard-heartedness has been one very important factor in the success of Englishmen on earth. So of Rome.

“For Romans in Rome’s quarrels
Spared neither land nor gold,
Nor son nor wife, nor limb nor life
In the brave days of old.”

“Has a nationality ever sprung from a people that had not the power of hate? The devil must add his leaven to the loaf or the bread is no food for time.”

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The late Sir James Fitzjames Stephen thought that in the particulars just named modern England was falling behind Old England. He had little "enthusiasm about progress" anyway.

He said: "I suspect . . . that people are more sensitive, less enterprising and ambitious, less earnestly desirous to get what they want and more afraid of pain, both for themselves and others, than they used to be. If this should be so, it appears to me that all other gain, whether it be wealth, knowledge or humanity, affords no equivalent." ". . . I do not myself see that our mechanical inventions have increased the general vigor of men's characters."

Health is necessary, more particularly, that a man may will and purpose strongly in the great crises of his life. On ordinary occasions, discharging common business, following routine, one may get on tolerably with little robustness. In walking just for exercise you may limp; it does not matter very much. But in a race, limping spells

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failure; and the few decisive moments in life, which determine the weal or the woe of it, its success or failure, are each strenuous like a foot-race, calling for infinite lung and heart power and omnipotent nerve. Such a man is described in the ode of Horace beginning "Justum et tenacem propositi virum"—

"Not the rough tempest that deforms
Adria's black gulf and vexes it with storms
The tranquil temper of his soul can move,
Not the red arm of angry Jove,
That flings the thunder through the sky
And gives it rage to roar and strength to fly.
Should the whole frame of Nature round him break,
In ruin and confusion hurled,
He unconcerned would hear the mighty crack
And stand serene amid a falling world."*

The greatest of all life's crises is the one which ends life, and that, like all the tugs of war before, is aptest to be bravely met by him whose spirit has been buttressed upon a sound physique. As protested in the last lines of Browning's "Prospice,"

* Addison's translation

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"I would hate that death bandaged my eyes and fore-
bore
And bade me creep past.
No! Let me share the whole of it, fare like my peers,
The heroes of old:
Bear the brunt, in a minute pay glad life's arrears
Of pain, darkness and cold.
For, sudden, the worst turns the best to the brave,
The black minute's at end,
And the elements' rage, the fiend voices that rave,
Shall dwindle, shall blend,
Shall change, shall become first a peace out of pain,
Then a light, then thy breast,
O thou soul of my soul! I shall clasp thee again
And with God be at rest."

A true man must wish health that he may run the least possible risk of ever becoming a burden to others. The fact deserves emphasis that health is absolutely our only at all certain guaranty in this vital matter. Wealth is here no surety whatever; family, position, influence, and power just as little. Wealth may preserve loving hands from slaving for you when you are an invalid, but it can never keep loving hearts from breaking for you when you are an invalid.

Ill health not only renders you a source of care to your friends, but makes you more

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liable than if you were healthy to acquire disease and spread it through the community, a possibility which increases as society condenses.

No doubt eminently fatal acute diseases may prevail in a population where the standard of health is high. That is why "a high rate of mortality may often be observed in a community where the number of persons affected with disease is small." All the same, healthy persons are the most immune in such cases, the weaklings serving as the centers of infection.

"On the other hand general physical depression may concur with the prevalence of chronic maladies and yet be unattended with a great proportion of deaths." Leckey observes this, adding that such an anæmic condition of large numbers in a population is ministered to by sanitary science itself, also by the modern rush of people to cities. He thinks it very doubtful whether our improved standards of living and our improved knowledge of sanitary methods altogether counteract this tendency

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to low vitality. May not a moral conviction in favor of good health be aroused and spread abroad, which shall reinforce sanitation and standards of life so as to lift up men's average vigor of body? By aiding in this we shall put hosts of men in a way not only to avoid burdening others, but to be burden-bearers for others less fortunate than they.

We bring forward lastly an argument for health more solemn than any of the preceding, the necessity of cultivating and insisting on perfect health in order that our offspring, if we have such, may be strong and happy.

Mere human life, a voluminous census, no thoughtful person can regard as a desideratum. Quality of population is more important than numbers. Recent utterances of President Roosevelt on the subject need radical amendment, without which they are calculated to do vast mischief. How one with such occasion for circumspect speech should voice himself so loosely in so vital a matter passes comprehension.



**WILLIAM OSLER, M. D., LL. D., F. R. S.,
Eminent Physician (British, formerly American).**

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Voluntary refusal to assume parenthood is not in all cases censurable, but in many extremely commendable. Not a few married people are so diseased in body or mind that they could not have offspring without being guilty of crime. To increase the number of defective human beings or of those whose existence must inevitably be attended by suffering, so far from being praiseworthy, is a base, unsocial, immoral act. Such a parent is guilty of crime against society, which must pity and support his defective progeny, and of crime toward such progeny themselves, fated to pine, languish, suffer and die in consequence of his malfeasance. Herein is turpitude beside which that of highway robbery, of arson, or of murder, turns white.

On the other hand, parents able and willing to produce, educate, mature and send out into society healthy children are public benefactors of foremost rank, compared with whom donors of charity millions become insignificant. Dr. Francis Galton, F. R. S., in his Huxley memorial lecture of

October, 1901, fittingly called attention to this. He declared a babe born of perfect parents and giving promise of living the normal time worth to the public thousands of pounds sterling at the moment of birth. Children of this kind, he said, grow up to increase the wealth of multitudes and to amass large fortunes themselves, besides being of incalculable value to the nation through the intellectual and the spiritual stimuli they impart. Dr. Galton urged that state, society and individuals, in every possible way, encourage young men and women of high character, intelligence, energy and physique to marry and rear families. Certain of the means suggested by Galton for realizing this end smack of artificiality and utopianism, but his main idea is sound. Effort to improve humanity without first radically elevating the average quality of parenthood is like trying to put a 1500-pound Hereford carcass on a Texas steer of the old long-horn type by condition powders and patent meal.

We close with a pair of words touching a few abused or neglected means of health.

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The perverse dislike and avoidance of physicians is as unfortunate as it is common. Much ill health and many deaths are traceable to it. To imagine illness is, of course, weak, and the habit of resolute resistance to threatened ailments is in general most commendable. But this is often carried fatally far. The wise way is, whenever ill symptoms suspiciously persist, to call a physician or call on one.

Blessed be gymnastic exercises, and, as a rule, blessed be athleticism. The fact that our colleges and universities are now health factories is among the most promising data in American life today. Call this a fad, if you will; a good-health fad is better than a bad-health fad such as once prevailed.

But hygienic exercises may easily be made too set, formal, or concrete, and, with many, they are certainly in danger of becoming too severe. Let us train for record by all means, but let it be a health-strength-and-longevity record rather than a pole-vault, shot-putting or hammer-slinging record. The writer always exercised in the

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gymnasium till crowded out by younger men. He will not deny that his retirement was partly due to the discouragement following pretty uniform defeat. But there was one event in which he always bore off the palm, in which today he holds the world-record and is pronounced a wonder by all who have seen him perform. That event is *moderation*.

The numerous athletes and trick-gymnasts of both sexes airing themselves over the cubic feet of air they can blow into the bag, the size of their biceps, and the various records they've made, must not be allowed to lead the less accomplished of us to think exercise of no account because it is informal. Methuselah and Samson never trained in a gymnasium, and not one per cent of the people in any modern community can do so. We plead for forms of health work suitable for both sexes and all ages, at odd moments, without teachers, set uniforms, rigid hours or rules. Walking is such; so are slow running, throwing, cultivating a vegetable or a flower garden.

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Middle-aged and elderly people ought to have more fun, play, diversion. Don't let the "kids" monopolize these. Avail yourself of all good incidental pastimes: games, concerts, joking, light converse, novels. In proportion as your work interests you there is danger of protracting it too long at a stretch. Change of work avails little. There is but so much nerve energy in a man at any time. Quit work and relax.

Everyone also needs systematic, studied, professional diversion—an avocation. Be an amateur expert at some craft other than the one which earns you bread—mountain-climbing, golfing, boxing, rowing, hunting, keeping bees, rearing horses, cattle or dogs. Microscopy is a splendid avocation. Systematic reading is another.

Best of all avocations, however, are the various forms of art life and work. Without ever tempting to excess or suggesting what is base, they round out, embellish and enrich character and inspire devotees for occupations which are more serious and more immediately and obviously valuable.

CHAPTER VI

FARMERS' VACATIONS*

I AM impressed by the growing popularity of outing travel among people of the merely well-to-do classes. To the ordinary man on business errands bent, car travel would be a burden were it not for the good humor vacation spirit of his fellow travelers. In their relaxation there is an infectious cheer that speaks of the wholesome effect of change and of the added zest with which the day's work will be taken up again when the outing is ended.

This habit of spending some small part of each year in looking about is a good one. The tension of modern American life demands that both mind and body have periods of relaxation, such as nothing but change can give—must have them or in time suffer the nervous breakdown which is the curse of our age.

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That this fact is going to be widely recognized is shown by the variety of people who make up the goodly company of summer travelers. The minister leaves his sermons and his wife her missionary meetings and aid societies. The lawyer, under the excuse of land hunting, seems able to desert his clients for a time. The banker drops his business mask and talks eagerly and with enthusiasm of good fishing resorts. The leader of men meekly follows his golf-skirted daughters and wife. The teacher loses her worried frown, the bookkeeper his stoop, and the newspaper man—well, the newspaper man is there, but he is one who can never lay aside his professional mantle! He carries with him his notebook and his politics.

But where is the farmer? The great producing agent, the man without whom these other classes would cease to exist, the man whose work has given its value to the land which is viewed from the car windows is seldom found among the vacation pilgrims.

Why is this? We know that a farmer's

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life is as monotonous and wearying as any. There are certain short seasons when his work is extremely heavy and rushing. During haying, harvesting, stacking and threshing periods, in spite of the heat and stress, the farmer must work from daylight until dark without daring to lose a day or an hour. Weather conditions often demand night labor. This period lasts for something like two months. At the end no one on the farm can fail to be exhausted.

Farmers' wives and daughters bear heavy burdens of housework, and theirs are lives of comparative isolation. They would keenly appreciate periods of communion with the outside world. Why is it that farmers' families so rarely enjoy these advantages? The few who do change their lives now and then are usually the best farmers. They are the ones with the most progressive ideas and methods, the farmers who are most highly regarded in the community. But why are they so few?

Surely not because farmers cannot afford the expense of outing trips. I instance to



**Clydesdale Stallion, Frisk Prince.
Percheron Stallion, Imperator.
Champions 1911 International.**

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you an average farming section in Nebraska: Within a radius of two miles there are probably 10 or 12 men worth \$4,000 to \$25,000 each. Yet many of them live in the manner of city laborers earning \$1 a day. They scorn vacations, as they scorn the pretty comforts and pleasures of their city relatives, who, perhaps, are worth much less money—simple comforts and pleasures, which from ignorance as to the ease of obtaining them are regarded by the farmer as wild and foolish extravagances. I am inclined to believe that it is mainly this false idea touching the cost of the thing, which keeps many farmers from enjoying periods of leisure and change.

But again, many a farmer gets into a rut of such long standing that its walls become almost like stone. He becomes obsessed by the fallacy of the ultimate long vacation, the hope of moving to town and living in ease after 20 or 30 years of farm life. Usually this is a mistaken policy. Every year our towns and cities witness the tragedy of town moving by farmers who occupy

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their city homes, expecting to realize at last their long dreams of delight, only to find that they have made the change too late. The complete break-up of habit after years spent in one single line or mode of life can hardly fail to be tragic.

Perhaps there is not much discontent the first year. It partakes of the virtues of a short vacation. Your interests are taken up with the building and furnishing of a new home and in sharing with the children the joy which they find in their altered life. But, like a widower, the new habitant of the city finds it hard to get through his second summer. The signs of planting time and of cultivating time awaken the slumbering propensities of a life and call for satisfaction with a relentlessness that is death to contentment. The "town farmer" soon finds his one comfort in seeking out others of the same dolorous class with whom he may discuss farm topics and crop prospects. He is apt to lose his jolly good nature and to grow irritable.

He gets but scant sympathy from his wife

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and children, for children are impressionable and change easily, and the wife has still her housewifely tasks, which are changed only by being lightened, while her hunger for social interests leads her quickly to form new friends and to take a vigorous hand in church and lodge affairs. In these interests it is hard for the husband to follow her. Man's nature is less adaptable. I have yet to find the retired farmer who has been able to cultivate a taste for receptions and dinner parties.

All this tends to mar the harmony of the family. When, usually by the third year, the man decides to move back to his old farm, there is apt to be an unpleasant situation. Of course, the wife is willing to go for her husband's sake, even though it be against her inclination, but you may expect open rebellion on the part of the children. It is a rare thing for a family to pass through this crisis without being in some degree broken up.

Of course, there are exceptions to this state of affairs. The farmer may find in

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town congenial work of some sort allied to his old habits, but the results sketched are common enough to be a warning.

It is my belief that a small amount of money expended in yearly or semi-yearly outings for the farmer and his family would so improve the enjoyment of country life as to remove from both parents and children all desire for permanently leaving the farm. Should they after all ever go West or need to reside in town—which it is greatly to be hoped will in the majority of instances never be the case—they will have the preparation necessary for entering upon the new life “with joy and not with grief.” It is certainly desirable that farmers should become better and better off, but it is not desirable that as their circumstances improve they should quit their old homes where their money has been made and throng into towns.

Parents and older people need outings much more than children. Most of the youth will seek education away from home and their travel will come then. It will

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soon be the regular thing for young people to have some education away from home. The narrow idea that the country school course is all that farm boys and girls need in preparation for life is passing away. How much more that country school course itself will mean when passed amid the new community which I am predicting!

This bettered country community will not come while farmers postpone all pleasure for a long term of years in order that it may be a more welcome guest when the work is done. Work is never done and it is better so. Work is the greatest blessing of life and is the medium of all enjoyment. It is the continual contrast of pleasurable relaxation and strenuous effort that gives spice and snap to life. To put aside pleasure until a distant season is to rob oneself of it entirely, then as well as now. We must educate ourselves to enjoyment as to labor, and unless we begin that education early we lose the faculty; so that, after years of toil, we find ourselves hopelessly warped and unable to fit the molds of normal life. Of course,

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there are periods in all lives when, for the performing of some special task or the mastering of some crisis, all else must be set aside for a short time, but we must never forget to resume the proper balance when these periods are past. There are no lives whose powers will not, in the long run, be strengthened by making pleasure and labor partners.

I urge the vacation plan for farmers first of all as the best way to broaden and enrich farm life by teaching it to mingle the joys of life with the labor; to learn by travel and observation progressive ideas of comfort and beauty in the home.

But there is another side of this question that is quite as important. I refer to suggestions the farmer will gain by an outing now and then as to improved methods in his vocation. A lifetime spent in reading agricultural papers may easily fail to give the farmer the practical help that one summer trip would bring. For years I had read of irrigation. I supposed that I knew a great deal about it. But when I saw farming

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actually carried on by that method it was as though I had never read a word upon it, so different was the reality from my book conception. I returned home blessing as never before the country that was watered from the sky!

The average western farmer has little idea of working with fertilizers. The eastern farmer has so little idea of working without them that it is a common thing for him, upon hearing of some large yield upon our western farms, to write and inquire as to the sort of mixture used for producing such results!

The farmer who gets about knows and understands the agricultural conditions in various parts of the country because he has seen for himself. He is quicker at finding new ideas which he can adopt to improve his own methods. These new ideas have a money value and the man who discovers them most plentifully is apt to have the best paying farm.

It may be objected that although there can be no questioning the value of vacation

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trips the average farmer has no time to spare for them, at least in the summer, the season for excursion rates on the railroads. There are certainly two periods of heavy pressure in farm work in our section of the country during which it would be hard for the head of the establishment to leave. The first lasts from the beginning of spring work to the end of the corn-planting season, about May 20. From then until about the middle of June there is usually a lax spell which would give time for a brief trip at a profitable season—a good time to visit the northern country, the prairie sections of the Dakotas and Minnesota or even the vast tracts of land recently opened in Canada.

From the middle of June to the middle of August comes the rush season which I have mentioned, but when this is ended the farmer is surely in condition to enjoy a vacation. That is the time when he should take his wife and go with her to the mountains, the lakes or the sea for complete change. If the West does not attract him, there are numerous excursions to the East. He can

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take advantage of convention or exposition rates to visit the home of his ancestors, view spots of natural or historical interest and study the modes of living used by an older civilization.

The results of these trips will, as a rule, show the next summer in increased income from the farm. Better still, they will show in the happier faces of mother and children and in the new enjoyment which all will take in life. That, after all, is the main thing. We are on earth to live. To find true and noble pleasures in life is more important than to find vast profits of the financial sort. But remember that joy is a duty which awaits no man's leisure. It must be taken early, often, and more or less regularly, or it will never be had at all.

CHAPTER VII

THREE PIONEERSHIPS

THE excellent Governor Poynter of Nebraska loved to tell an anecdote which ran in the following tenor: A revival was in progress at some point in Iowa. Religious fervor being aroused in the audience, the revivalist asked all hearers who wanted to go to Heaven to rise. Everybody stood save one little old man, who sat apparently unmoved. Then the revivalist asked all who wanted to go to Hell to rise. Of course, no one stirred. Whereupon the revivalist, addressing the little gentleman, said, "Well, friend, what are we to think of you? You don't seem to want to go to Heaven or to want to go to Hell. Where do you want to go?" "Wal," said the old fellow, "if it don't make no difference to you, I'd like to go to Nebrasky."

Most Nebraskans do not sufficiently appreciate their state. The same is true of Kansans and Dakotans. Even our land-



JAMES JEROME HILL.
Builder of the Great Northern Railway.

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owners have comparatively little idea of the wealth gathered in their acres. The greater part of eastern Kansas and Nebraska is as fertile as any corresponding piece of land in the world. That is a great thing. The world's free land, all that is good for anything, is gone. A little land in the world is yet to be had at a very low price. Part of it is in Siberia, part in South and Central Africa, and part in northwestern British North America. Portions of the Torrid zone will yet be open to civilization, it being an interesting fact that we are learning how to live in the hot quarters of the world just at the time they are being opened. It remains true that no large tracts of valuable land are easily to be had. Never until recently could that be said.

Down to within 25 years if men anywhere quarreled with one another, one party or the other could move to some place where good land was to be got, practically for the asking. You cannot do that any more. On the other hand, the population of the world is increasing by leaps and bounds. Popula-

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tion is not stopping at all because the free land is gone. Men cannot live except by the products of the soil. A man who owns good land anywhere in the world has therein a gold mine, and it is going to be more and more valuable with every passing year.

In any country where you can get a living off the land, good climate becomes an extraordinary advantage. In parts of the Torrid zone the land brings forth immense amounts of vegetable fiber and innumerable animals that might serve as food for man, but there is so much fever in those regions that they cannot be the home of great population. For the average human being Nebraska is as healthy a location as there is on the globe. Many people beginning to suffer lung trouble are afraid if they stay in the lower or timber parts of the country they may break down. Hundreds not yet destined to a consumptive's life and death are constantly looking for some place to settle where they can live comfortably and to

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a considerable age. Such people thrive in Nebraska.

Another feature of the situation, which the majority of my fellow-citizens might be excused for not taking into account, I am brought face to face with because of the nature of my business. I mean the school work, life and organization of these states.

The question who gave our schools such a splendid start goes back to the rare quality of our original population. In this, too, I believe the states under survey most fortunate. You gathered your English-speaking population, some from New England, some from New York, some from Ohio, from Illinois, from the South; but they were all first-class people. They came here not to exploit the country and then leave, but to make homes, to till the soil, to build up commonwealths and to make them the best in the Union, and they have done these things. There came also Englishmen, Irish, Germans, Scandinavians, and Bohemians. Some of the best school people and teachers, and some of the finest students in our state

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universities today, are of these various nationalities; people whose fathers and mothers came here from beyond the sea, but with the highest sort of civic purpose. They have lived up to this. At one point the Bohemian farmers got together and organized a full-fledged farmers' institute, carrying it on all by themselves, before the English-speaking farmers of the county did anything of the kind.

The settlement of the great plain west of the Allegheny Mountains is one of the marvels of human history. Only a little over a hundred years ago there were no white men in all this vast area. When George Washington became president of the United States, there were as good as none. Of the few French and English, none were in the business of insuring scalps, though plenty of redskins were in the habit of removing scalps. If you wanted your headpiece insured you had to insure it yourself, or you and your few neighbors whom you could gather around you, with rifles. In the effort made to Christianize and educate the In-

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dians, it was found that the noble red man was much more bent upon disfurnishing the outside of other people's heads than on furnishing the inside of his own. In all that first pioneership, mastering physical difficulties—such as streams to be forded or bridged and plains to be crossed, springs to be found, dams and mills to be built—the hostility of the red man was a constant plague. Our fathers encountered all sorts of wild beasts, snakes, and poisonous plants. There are poisons still, but they are known. The poisonous qualities of plants were not known to the early settlers. They had to become so at the cost of sickness and death on the part of many.

Into that wilderness of dangers brave men and women plunged with a resolution that is hardly to be matched in history. Then, as men pressed farther and farther west, the difficulties of the climate were encountered. At places no water was at first to be had without long hunting up and down. No facilities for sinking wells existed. My heart swells with pride and my

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eyes fill as I think of the history of suffering on the part of those splendid men and women who pressed to this land when a wilderness, not knowing whither they went. What unknown numbers were cut down or shot, died of thirst, of snake poisons or weed poisons, laying down their lives alone, without a friend in sight to whom they could whisper last words! These sufferings of the earliest settlers did not cause those who started later to shrink back. On and on the immigration rolled, until the whole land was conquered.

That material pioneership has been referred to in hundreds of history books. All boys and girls read about it in school. Civil pioneership followed. It has not been so much discussed, but it forms a chapter in the history of America that ought to be written, quite as important in its way as the other—not so replete with accounts of dangers to life and limb, but still testifying to infinite resolution. I mean the establishment of county lines, of county seats and courts, of schools and school districts, and

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all of those institutions that are necessary to the civic life of a great community. You can imagine how this pioneership must have proceeded. Of course, there were no counties, towns, or surveys for such. Surveys had to be made, and that was very difficult. Here the material pioneership and the civil pioneership went hand in hand. Then came the making of laws, rules and regulations for the civic life of the people, outlining school districts and starting schools. After little settlements had been made in one part and another, those fragments had to be brought together into counties; courts and county governments had to be started, the courts set running, obstacles to law and order removed and such provisions made that the people could have justice.

It is a remarkable feature connected with the colonization of America, that from the very first the people insisted upon law and order. In California a sort of anarchy reigned for a time, because men were so far from the seat of government. Throughout the great Mississippi Valley when civiliza-

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tion was new, men got together at the very earliest moment and established rules governing their several communities. Did you ever think of the unrequited labor men and women had to perform in this civil pioneership, that public order might prevail and men's life together be regular?

We are now in the third great form of pioneership, the economic. The government goes on; there is no longer any hitch in it. A man is fairly sure of justice, life and limb. He is secured and protected wherever he goes. But this third phase of pioneership we have only begun. For the future prosperity of our states this form has to be gone through like the others.

Parts of the states need irrigation, to be had by storing in spring the surplus waters of the rivers until needed in the drouth of summer. More square miles might thus be provided with moisture than the majority of us suppose. There was probably a time when Nebraska had its fair share of trees. Even the western part of the state was once well covered with forests. It was bare when



"The Pioneer," MacMonnies' Statue, Denver, Colorado.

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the white man came, because the Indians did not protect the soil and never thought of doing aught to increase its fertility. Forest fires broke out and the Indians let them burn away all the trees. Then the grasses came up and burned. When the trees tried to sprout again the grass fires cut down the little shoots. So you have over our enormous plains and hills, where the soil is so fertile, and where cattle range up and down, a scene which, compared to its earlier state, looks like a wilderness. Nature never intended that land to be bare. Only give Nature the chance to do what Nature once did and still stands ready to do, you can afforest such parts of your territory as you like. Plenty of good timber trees and the best of shade trees will grow in any county in Nebraska. The government foresters have proved this. When a portion of the territory has again been covered with trees, those and the immediately contiguous parts will not need artificial irrigation.

Thorough culture may take the place of irrigation. By beginning early in the spring

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and saving up the extra supply of water, you have in most seasons the moisture needed for your crops during the entire summer. This conservation of moisture by means of careful and thorough cultivation is an art which we have hardly begun. We must press it until the soil shall yield its utmost, even in the dry seasons.

The quality of cattle and hogs is improving. It is as cheap to keep a first-class brute as to keep a second or third-class brute, and pays better. The meanest kind of a steer has a stomach that enables it to take in vast feed without laying on flesh. It is the mark of a good animal not to do that. Best keep good animals. It makes you poor to keep the poorer. Why do so many farmers retain such scurvy types of cattle, hogs and horses when it would be so much more profitable to keep good stock?

The old Biblical question, "Sir, didst not thou sow good seed in thy field?" interestingly shows that the importance of honest seeding was recognized ages ago. Do not buy seconds in grass seed or in seed corn.

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Usually when we put by corn for seed we simply pick out good-looking ears. We do not scientifically look into the business of planting or sowing our lands with choice seed. Yet some of the most remarkable agricultural results ever obtained came in that way. In certain parts of the country the business of breeding corn for seed has become a great one. It is destined to be as important as the breeding of stock.

A gentleman who has made a practice of breeding seed corn was lately in the presence of a number of other gentlemen examining some corn. He picked out two ears that almost all would have said were alike. They were of equal length and size, and as held up in the hand seemed not unlike in weight. Any man not an expert would have called one as good as the other, yet when those were shelled, one yielded almost double the corn that came off the other. Which are you going to use for seeding? Obviously the ear that runs to corn and not the one whose tendency is to cob.

There is the utmost difference in the size

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of the germs. In some kernels the chit that extends down into the cob is small, hardly larger than the eye of a darning needle. In other cases there is a fat, healthy-sized plug at the end of the kernel, sticking down into the cob. Suppose the kernels equal in other respects, it is insane to take for planting the kernels that have the small chit, because as surely as there is a day or two of rainy weather after the corn is planted, germination, not having enough food behind it to keep during the damp and chilly weather, will cease, and those kernels of corn, although healthy enough, will not come up. You will have to replant. That is the cause of the non-appearance of corn in many of our fields every spring. Whereas, if you plant the kernels that have large chits, the germination has power behind it to go on independently of the soil until the weather has cleared and the moisture and warmth come that are necessary to the life of the corn. These are only illustrations of the immense importance of seed breeding and selection. The time is coming when from

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better seeding alone your fields will yield you many per cent more than now.

In that better tillage of the soil to which I referred, is included more plowing or disking, particularly beginning earlier so as to save the moisture of early spring. A great deal of what is called agriculture is not agriculture; it is simply land-skimming, seeing how many years you can rob your land, ship off and get money for the grain, and put nothing back. If you use your soil as a mine, by and by will come the reckoning. In the Holy Land, all the way from Joppa to Jerusalem, until you get up to the rocks where nothing ever grew, the soil looks good, but it produces almost nothing and will sell for almost nothing. I wonder if the Hebrew capitalists who are helping poor Hebrews to settle there are not mistaken in supposing that that country will ever be the home of a large population?

No land anywhere but has a limit to its productivity. Put back something into the soil, or by and by you cannot get anything out of it. There are certain industries that

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enable you to put back and not be forever taking out. Dairy farming is one of the best of these, because in it you take off the land almost nothing that is good for the land. That industry makes your farm rich not only in your time, but in the time of your children and your children's children. Such a form of agriculture is often quite as profitable as any other, even at the outset, and it is much more so in the end. You eat your cake and have it too. This conservative sort of agriculture we ought to adopt and to encourage in every possible way.

Let us use our influence to impart better ideas of culture. Vast improvement is possible and in store. The future of the section is destined to be glorious. So long as time shall last, this grand territory is going to blossom like Paradise, and be the home of a population as magnificent as ever lived upon our globe.

A fourth phase of pioneership appears upon the horizon of the future, that of the organization of country life—social, literary, artistic, educational, religious, eco-

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nomic, the last including co-operation in the purchase of stores and in the marketing of crops. But this coming species of pioneer-ship must be reserved for later treatment.

CHAPTER VIII

AMALGAMATING OUR FOREIGN BORN

OUR population of foreign birth is a frequent topic of remark. People dwell on the number of foreigners joining us yearly, on the competition they offer to natives of America, and on the undesirable character of many among them. Most who discuss the subject seem to concern themselves little with foreigners' slow progress after they enter our gates, it being assumed either that foreigners once domiciled are sure to become well Americanized in time, or that, if not, nothing can be done to speed the process. Little thought is given to the danger that parts of our country may continue a very long time unhealthily foreign.

Most immigrants from the north and the northwest of Europe and from Canada are quickly assimilated. French Canadians and people from the Latin races, also Bohemians and Poles, are more backward; Hun-



WILLIAM GRANGER HASTINGS, A. B.,
Dean of the College of Law, University of Nebraska.

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garians, Russians, and Greeks still more so; followed by the Japanese and the Chinese, which last are the least assimilable of all.

Whereas till 1890 immigrants from nationalities congruous with our own were in a great majority, since 1895 more heterogeneous elements from the south and the east of Europe, of lower grade and less education, have tended to preponderate. In 1903, Italy, Russia, and Austria-Hungary sent us 572,000 people; the United Kingdom, Germany, and Scandinavia, formerly our chief sources of supply, only 186,000.

Our southern states have but a scanty foreign element, the white population of foreign origin being in North Carolina only 1 per cent. On the other hand, North Dakota has 78.9 per cent, and in each of 14 other states and one territory the inhabitants of foreign origin are in the majority. According to the latest statistics at hand, New York has 60.1 per cent, New Jersey 54.4, Connecticut 58.2, Rhode Island 65.4, Massachusetts 62.7, Illinois 52, Michigan 57.1, Wisconsin 71.5, Minnesota 75.5, South

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Dakota 64.2, Montana 58.9, California 54, Utah 61.8, Nevada 57.3, and Arizona 51.7.

Mostly our foreigners are fairly well scattered, yet there remain numerous foreign colonies here and there, in each of which, not only the language of the nationality is persistently spoken, but the customs of the country are maintained. Little Italies, Russias, Swedens, Germanies, Hollands, Bohemias, and Polands exist in many cities and in not a few country regions, around which the tide of American life sweeps almost as vainly as the ocean about granite reefs.

This slow amalgamation of outlanders is not a national peril. Our citizenship from abroad is in the main good, and the least likely part of it will become valuable with time.

The nation's experience with immigration hitherto is ground for hope. Pierre Leroy-Beaulieu in his recent work well argues "that the greater part of the blood that flows in the veins of the American people today is that of people who inhabited

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the United States in 1830." At least 34 millions, and probably 40 millions, of our white population in 1900 was of American descent in that sense. If to this number be added British immigrants since 1830 and their descendants, probably three-quarters of our white population today is of British origin.

Great and rapid as our immigration has been, foreigners have come here much more slowly than to Australia, where the population rose 200 per cent from 1831 to 1841 and again from 1851 to 1861, doubling in the decade between these two, and going up once more by fifty per cent in the decade 1861-1871. During no 10 years has our immigration formed over 8 per cent of our population, whereas in Australia it reached, in 1861, almost 50 per cent, and continued in excess of 10 per cent till 1891.

Mr. Leroy-Beaulieu believes that "a great part of the incontestable superiority of America over Australia has resulted from the slower movement of emigration to the United States. American society has had much more time to digest and assim-

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ilate the elements received from abroad. In addition to this should be noted that emigration to the United States did not set in in earnest until about 1830, by which time there was already a solid substratum of 10,000,000 of whites, with institutions and traditions of their own, and with ability to inoculate the newcomers with a spirit of sturdy self-respect. The newcomers, it should be added, were generally of a quality superior to the avalanche of mere fortune hunters which about 1850 submerged the youthful Australian society, too feeble to react upon it successfully. As opposed to this, the essential traits of the American people were developed by 1830, and although somewhat modified survive today."

Herding by foreign-born men and women in the United States is of two kinds; the spontaneous, which implies no prejudice against American things, and the purposive, which springs in part from a determination not to be of us though among us. The first is either a mere incident of immigration—new arrivals going to centers of their coun-

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trymen as points of departure for real homes elsewhere—or the settlement near one another, natural in a strange country, of people hailing from the same land and speaking a common tongue. Most country Germanies, Swedens, Bohemias, and so on, belong to this latter type. Their existence betrays no un-American motive, no obstinacy, no contumacy, and they will quietly dissolve after a time. Temporary infelicity may attach to this species of banding, but it cannot prove disastrous.

Bohemians everywhere patronize schools, not behind even the Germans in this. In a certain city, the board of education being unable to provide a suitable place for the high school graduation exercises, a Bohemian merchant came forward and placed the opera house at their disposal, himself paying the bill.

Dangerous or pernicious herding is of the other, the intentional kind, meaning dislike, or dread of, and a more or less resolute stand against, Americanism.

One powerful cause of the tenacity with

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which nodes of foreigners withstand American ideas is the presence among them of many men and women who came here too far advanced in years to learn English. These form in each case a tough nucleus of foreign life and manners. They hang together, doing all they can to foster their vernacular and their national customs. Children and grandchildren cannot but be influenced thus. Even when knowing English and free from prejudice against American things, younger people sustain the old language for the sake of the old people, and otherwise, so far as interest and convenience allow, aid and humor the aged in their old country whims.

This influence is decadent and must in the not distant future cease to act. A German lady in an eastern city had five bright children, all of whom, being in school, talked English beautifully, though they also spoke German with equal ease. They did not like German, however. That her own isolation might be lessened, their mother used to punish them till each promised always to

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speak German in her presence. This continued a good while, but in vain. Games with American children counteracted every chastisement, and by the end of a week, in spite of mamma and her birch, the culprit completely relapsed into English. The penalty was regularly renewed every Friday till the good woman saw its uselessness and desisted.

Immigrants' love for their mother speech is a powerful centripetal force, its hold continuing long after most or all of them become able to converse in our language. "The sound of my native tongue beyond the sea," said Edward Everett, "is as music to my ear, beyond the sweetest strains of Tuscan softness or Castilian majesty." Few of our foreign-born neighbors could express this so eloquently as Mr. Everett, but the dullest of them feel it no less intensely than he. This sentiment has prompted the Germans of many cities to agitate for the teaching of German in the public schools which they help support, a demand successful in many municipalities. Swedes and Bohe-

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mians have here and there asked the same but in vain.

It is doubtful whether the public school teaching of German has anywhere been of much assistance in keeping up the German *Wesen* in a community. The purpose and method of the instruction have, and rightly, been made such as to render it beneficial to all pupils, general and literary, no mere drill in speaking. And the reason why cities decline to take up Bohemian, Swedish, and Russian is that the literatures of these tongues are deemed of too little value to the constituencies at large.

Close to language as a conservator of "foreignism" stands religion. Men coming here addicted to a given rite which they richly associate with the land of their birth, its language, government, and customs, cannot see these accompaniments dissolve without feeling that essential faith and worship are going by the board. They therefore try to retain and bolster items of their old nationality, standing together to fight off whatever antagonizes that. Many settlers

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are slow to apprehend the reality of American religious liberty, fearing the national spirit that besets them behind and before as somehow representing an alien faith or atheism, and not daring to give up to it lest their salvation be imperiled. The attitude of the oldest American churches, at times haughty and intolerant, as if they were established and authoritative, nurses the unfortunate timidity named.

The superciliousness of Americans tends to make foreigners herd. Men whose fathers, grandfathers, or great-grandfathers were themselves immigrants put on an air of superiority toward people landing yesterday. To this is sometimes added positive abuse by American employers toward workpeople freshly arrived whom one may easily grind, underpay, or cheat in trade. Not seldom newcomers are made to believe themselves thus maltreated when they are not. They learn to hate and dread Americans and rally in national groups for self-defense.

In many cases this "nucleization" among

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Americans of foreign origin is harmless. Elsewhere, though showing a bad side, it is so evanescent that no patriot need lose sleep over it. In instances, however, which are far from few, it involves evils of a radical nature. Country concentrations belong in the main to the innocent class, yet some of the ills characterizing the city groups attach to the country communities also.

Entrenched foreignism is an obstacle to progress. Into the defiant flocks very little good literature, whether American or vernacular, finds its way. The best German-American papers are first-class, and the same may perhaps be said with little exaggeration of one or two French and Italian sheets published here. But the immense civilizing pressure which our great newspapers, our innumerable magazines, and our fresh, attractive, and instructive book literature bring to bear upon the rest of the population, whether in city or town, is as good as lost within those close brotherhoods.

Even where schools are provided and generally attended by the children—who

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nearly all do well in their studies if they attend—adults remain little affected. Teachers in their districts gain hardly any access to them. Clergymen of their nationalities, often unintelligent, are their sole leaders and advisers. The conservative tendency is so strong that clannishness outlives the first generation and the second, projecting itself on and on even after all its subjects have learned our speech and most of them forgotten their own.

Still, it would be the height of impolicy to dissuade our foreign born, even if we could, from using their native tongues in books, papers, conversation, schools, and church services. The net result of such vernacularism is to introduce American ideas, though in a roundabout way, into a multitude of mature and influential minds to which this is the only avenue.

A sure sign that there is defiant "foreignism" in one of these "nub" communities is its dislike to outsiders, opposition to marriage between its youth and American youth, and its wish, sometimes forcibly ex-

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pressed, that all sorts of business carried on within its limits be in the hands of its own members. Tradespeople coming in who are not of the guild are boycotted or annoyed till they remove, monopolies by guild members, costly and harmful to all, being kept in existence by the stupidity of their victims.

Similar, and yet worse, is in frequent cases the political servitude of these stubborn cliques. Each has its boss who, at an election, being provided with the necessary money, a good part of which will remain in his own pocket, rounds up his countrymen at the polling places and delivers their votes to the side providing the cash. Not seldom there is a pair of bosses, one for each of the great parties, so that the vote of the precinct is divided. There can be no doubt that in most such cases the bosses are in collusion, manipulating to secure from party organizations the greatest possible revenue. The more intelligent voters, seeing the game and supposing it to be a necessary part of Americanism, hate the country, working with

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might and main to strengthen the fences separating it from the surrounding public.

It is mostly within these invisibly walled fastnesses of un-American life that anarchy's theories are elaborated and its schemes of violence hatched. The trouble with most anarchists is not that they have formed acquaintance with our institutions and hate them, but that they have no insight whatever into real Americanism. The snobbishness of the idle rich, our greed, the injustice sometimes meted out to laborers, bad laws, partial courts, and so on, they denounce as the essence of our government, being unaware that the overwhelming bulk of Americans deplore those evils as heartily as anarchists can, and that many are patiently toiling to correct them.

There is no summary way of abolishing these foreign *imperia* in our *imperio*. Their dissolution must be gradual. It will be helped by whatever neutralizes any of the bad influences named. Immigrants, however ignorant, should be shown a sym-
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thetic spirit, not avoided, scolded, or dealt with in a patronizing way.

Severer naturalization and franchise laws are not to be commended. They would turn the evil into a positive danger. A vast population of well-meaning residents in a state wishing the franchise but denied it is a peril of the first magnitude. Our laws in these matters require, not change, but honest administration and enforcement. Present statutes excluding undesirable foreigners should be carried out with discrimination and in good faith.

Were immigration to continue indefinitely on the vast scale witnessed in recent years, there would be much to say in favor of keeping out classes of foreigners now welcomed, but the present inrush cannot go on, for the reason, among many, that our free arable land is gone.

Improvement in our civic life will aid—whatever purifies Americanism and holds it to its high ideals—all that tends to good morals, justice, regard for man as man. Better wages would ameliorate the situation

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and should be allowed wherever they can be honestly claimed.

Evening schools, as carried on in Boston, New York, Chicago and in other progressive cities, are an immense benign force to disintegrate aggregations of foreigners. They are doing a work which the public does not half appreciate. To be convinced of their merit, visit an evening school in the Russian, Greek, or Bohemian quarter of Chicago, and witness its success in teaching great classes of those nationalities our letters and the elements of our civics.

For the most part, evening schools reach only the young. In all centers of dense alien population they should be authorized, equipped and encouraged to take in adults. The most un-American of our settlers, the elderly excepted, would like to learn English, which desire, properly appealed to and backed by ampler school facilities, would effect the nationalization of many. Churches and Sunday schools might usefully establish evening classes to assist in this most patriotic enterprise. It would be

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missionary effort of incalculable value. The instruction should be exceedingly simple, as that in the evening schools of foreigner districts usually is—English, reading, spelling, and writing, the rudiments of arithmetic and geography, American history and the nature and frame of our government. Music should be a strong feature. Most pupils would join in it while all would enjoy. A proportion of the teachers should, if such can be found who are proficient in English, belong to the pupils' own blood.

It has been suggested that night school attendance be made obligatory for adults or for certain classes of them, as day schooling is for children, with the view of familiarizing them with the English language and American customs. This would involve much hardship, as nearly all who would be affected are poor and must work when they can get work, be it day or night.

The day public schools are the strongest social force we have, drawing together the various and complex elements of society and breaking down social barriers. To them

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we must look as our fundamental solvent of "foreignism." More than aught else, or all else, they bring it about that the rich and the poor meet together in harmony. They foster patriotism and a democratic spirit, helping to create good citizens. Children reared in a patrician atmosphere almost inevitably grow anti-social, wanting in public spirit. Youthful prejudices are tenacious. It is well that the bank president's and the butcher's son study and play side by side, and that the better dressed of the twain often has occasion to envy the other his superior ability.

CHAPTER IX

THE BEEF SUPPLY

IN New York State some time since a worthy and distinguished gentleman died. At the funeral the officiating clergyman naturally dealt in eulogy. When he had used up an hour and a quarter in discoursing upon the luminous and extraordinary virtues of the deceased, members of the congregation began to withdraw. Gathering himself in the way of peroration, the speaker asked, "Now, beloved friends, in view of the lofty and unparalleled virtues of our departed brother, where shall we place him? Shall we place him among the angels?" Pausing an instant, as if someone had replied that an angel's altitude was not exaltation enough for so good a man, the clergyman cried again, "Shall we place him among the archangels?" Seeming to hear that even an archangel's eminence would not suffice, the preacher vociferated still more loudly, "Where, then, shall we place



HOWARD REMUS SMITH, B. Sc.,
Professor of Animal Husbandry, University of Minnesota.

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him?" Just at that instant a little old gentleman with a squeaky voice answered from the far end of the church near the door, "Ye c'n place him in my pew, if ye wan' ter. I'm agoin' ter leave."

More than funereal tediousness is wont to mark the presentation of statistics and discussions based thereupon. However, the considerations below are so weighty that I venture to urge all present to retain their pews to the end.

Is the supply of beef cattle keeping up with the demand?

In a sense, if the least time and space are allowed for, the supply and the demand of an article traded in are always equal. Any cause tending to sunder them is at once annulled by its own operation. If the supply begins to run ahead, prices fall and demand increases to meet the supply again. If demand starts to grow away from supply, prices rise and demand falls off, or else supply increases to meet the demand. The effect of these movements is immediately an equation, at some price or other, between

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supply and demand. Strictly, therefore, demand can never, for any length of time or width of space, get away from supply.

Of beef, like any other merchandise, there will always be a supply at some price. It will never cease to be possible for men who can pay the price of beef to obtain it, though, of course, the price might conceivably so soar that beef could be procured only by families of ample means. And there will always be a demand for beef. Well-to-do people enough will forever exist to keep up a certain call, however high beef prices may rise.

To create a clear issue, let us state our question thus: Is the supply of beef likely to continue sufficient *at present prices* or, after a little, will lower prices rule or higher prices have to be charged? The question calls for inquiry into the probable future of beef cattle production, and into the probable future of the beef cattle demand.

I discuss, first, the production problem—the probable supply of beef cattle during the years just before us, meantime, for sim-

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plicity's sake, supposing the demand to remain about the same as now. There are causes at work tending to diminish the supply of beef cattle, and certain to do this unless demand increases—a question to be considered later.

The free pasture area on the public domain is lessening. Thousands of acres of that pasture have been ruined through lack of supervision. Here is, of course, the great argument for a public land-leasing law, over which so much controversy has arisen. Into this I do not enter; but it is clear to all that if a statute could be enacted enabling stock owners to control their ranges so that care for the land would pay them—having this effect without offering any hindrance to honest homesteading—such a statute would work great and permanent good.

As things are, it being no one's interest to prevent, precious soil is blown away by the wind, covered with gravel by millions of gophers, trampled by cattle, gullied into rivers by rains and streams, and made desert by thieves stealing and cutting the trees

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which shelter it. Under an intelligent government these things ought not to continue.

The federal ox pasture has also been invaded on a gigantic scale by homesteading. This process is now rapidly going on, and it is destined to be carried still further by a number of influences whose power is only just coming to be felt.

One of these is irrigation, public and private. We need not go so far as some irrigation enthusiasts to be convinced how vast an area—now too dry for profitable agriculture—this process will eventually turn into good agricultural land.

As much more space will be withdrawn from pasturage by the creation of forests. This process is sure to be accentuated by the growing impossibility of obtaining sufficient timber for the needs of this great country from the sources hitherto known. Allowing for alkali plats and for horny subsoils, there is not a county which might not grow its own timber; few that might not, besides this, grow for export; very many where timber would be the most profitable

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crop which could be raised—far more so than pasture grass. This profitableness will be discovered ere long, with the result that artificial forests will spread over millions of acres now sandy and bare.

In Holt county, Neb., some years ago, a bald hill of drifting sand was planted with pine seedlings. Every square rod already has its lusty growth. This Bruner pinery now consists of slightly more than half an acre, the larger part of the original tract having been burned over. An investigation was made in November, 1903, by a government expert, who found on the present area 2,376 trees, mostly jack and yellow pine; 626 of them "dominant," 930 "intermediate," and 820 "suppressed" trees. The 820 suppressed trees and many of the intermediate have been cut out to give the more promising trees ampler light and space. One of the jack pines cut measured 22 feet in height—above the average of its class, though only by a trifle. This tree made a height growth of $2\frac{1}{2}$ feet in 1903.

The cost of establishing such a plantation

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on any considerable scale would not exceed \$8 an acre. The land would not cost over \$1.25 an acre, a total initial outlay of \$9.25 an acre. At 5 per cent compound interest this would amount in fifty years to \$106.10. To that sum add the taxes, if any. They would hardly be more than nominal. If the planting were well done, no allowance need be made for care. Thinning might occasionally be necessary, but the material removed would pay for the labor.

At the end of 50 years the plant should yield 40 cords an acre, worth at least \$4 a cord on the stump, making the gross returns \$160 an acre. The total cost an acre at 5 per cent compound interest would be \$106.10, leaving a net profit above 5 per cent compound interest of \$53.90.

On this conservative estimate the investment, besides paying a good rate of compound interest, would net at least \$1 an acre annually. My reckoning assumes that the forest would be cut clear at the end of 50 years, but this would not give the highest returns, since much of the best timber would

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then be rapidly growing into value and ought to stand some years longer. Again, the estimate is based on present prices, whereas prices will no doubt advance a good deal within 50 years.

Our free pasture will lose still more by the spread of thorough agriculture, which, we are learning, is able to produce crops, and that in very arid regions, largely irrespective of rainfall. It is sight of this benign possibility which renders homesteading so lively.

Those interested in selling half-arid lands ought not to herald them as valuable in proportion to their fertility; because, to render this fertility efficient involves a considerable outlay an acre for labor and team power or steam power. Spite of this, however, conservative critics pronounce it certain that agriculture upon the levels in question can be made profitable, and will, no doubt, in time turn to its uses vast territory where now cattle roam and browse.

To all these methods by which the man with the plow is slicing off the herder's

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beat, we add the indirect effect of afforestation and of settlement upon tillage areas adjoining arid lands.

Wherever houses, hedges and fences are erected, ponds created and filled, and crops raised, the effect is felt miles away. Contiguous sections that were dry are made less so and begin to blossom. Later they, too, are profitably farmed, and in turn take up the missionary work, the advance posts of agriculture as it invades the desert. This is the truth meant to be expressed by us of Kansas, Nebraska, and the Dakotas in the proverb that the rainfall is moving westward. Afforestation in any tract will work similar miracles far and wide in the neighboring dry regions.

Clearly, public pasturage must in no very long time cease to be an important factor in raising beef. I myself query whether the market price of beef is any longer determined by the cost of cattle production on the public domain; whether, in other words, the supply derivable from this source has

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not become so small as to lose all effect upon prices in the great centers.

When Hawaii was annexed, although its sugar thus let in free of duty was considerable, the price of sugar in the United States did not fall. Had Hawaii been able to supply our entire market, prices ought certainly to have fallen by about the amount of our raw sugar tariff.

The fact that in any commodity a small part of your supply is produced very cheaply, does not affect in the slightest the general selling price. To do this, the cheaper supply must be ample enough to meet the entire demand.

A few years ago the Chicago price of beef cattle was fixed, mainly, by the free pasture cost of production. Perhaps the jump of prices during 1902 may be accounted for by the trade then for the first time becoming aware that the feed cost of beef and not the free pasture cost must henceforth rule.

The production of beef cattle is cut down by the spread of the dairy industry—still

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another cause whose full scope is not yet in sight. All along east of the free pasture belt are small herders, who, a few years ago, were herders and nothing more, but are now to a considerable extent producers of butter fat. The great majority, to date, use milk-beef breeds, beef stock still being their main interest. But this is rapidly changing, the dairy profit being found greater than the other. As this goes on, many of these will buy Jersey or Holstein instead of Hereford bulls, and cease raising beef altogether.

The number of cattle in the United States other than milch cows was, in 1880,* 21,000,000 odd. In 1881, the figure fell a little, but rose in 1882 to 23,000,000 odd. Then the million figures ran 28 in 1884; 29, 29, 31, 33, 34, 35, 36, 37, 35, 36, 34, 32 (in 1896, beginning to fall off, you see), 30, 29, 27, 27, which is the million figure for 1900. Then there is in 1901 an astonishing leap to 45,500,000, the maximum figure till then attained. Then another fall occurs, the figure for 1902 being 44,750,000 and for 1903,

* No figures given here or below for dates later than 1903.



Hereford Bull, Stonewall Jackson. Weight, 2,200.
Shorthorn Bull, Ringmaster. Champion 1911 International.

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44,659,200. The gain since 1880 is over 100 per cent. The gain in the country's population since that year—aside from territorial acquisitions—is only about 51 per cent.

The number of milch cows has increased since 1880 much less rapidly, viz., by about 42 per cent, being in 1880, 12,000,000 odd. In 1884 there were 13,000,000 odd; in 1886, 14,000,000; in 1889, 15,000,000; and in 1891, 16,000,000. In 1897 the number fell off a little, a trifle more in 1898, mounting to the 16,000,000 figure again in 1900. In 1903 the number was just over 17,000,000.

The low-price average for native beeves in the Omaha market in recent years has run as follows: for 1898, \$3.42; 1889, \$4.03; 1900, \$3.83; 1901, \$3.81; 1902, \$4.07. The high-price average for the same years ranges as follows: 1898, \$5.24; 1899, \$5.89; 1900, \$5.70; 1901, \$5.95; 1902, \$7.10.

We now turn to note circumstances which must tend to increase the production of beef, even supposing the demand remains the same.

One of these is the multiplication of first-

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class beef bulls. A battle of breeds is going on. One man thinks there is no beef ox like the Aberdeen-Angus; another argues for the Hereford; while not a few still maintain that on the whole the Shorthorn is the best beef maker. All three of these noble types, as well as a number of others just as worthy to be mentioned with them, are advertised, their merits made known, and specimens purchased in great numbers far out on the frontier, the result being a vast increase in the production of beef over what would occur if the scrub stock of earlier years still fed on our pastures.

There is equal progress in breeding methods. Hand breeding is more and more practiced. The difficulty of this in great herds is, of course, immense, but ways will be invented to make it possible—and greatly profitable as well, through vast saving in place of the present wholesale waste of animal vitality at breeding time.

As some beef farmers are eking out their profits by producing cream, so many dairy people are learning how they may advan-

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tageously raise beeves "on the side," so to speak. Ordinary milch cows, though very good, unless so good that milk-stock calves from them are certain to be worth raising, are bred to beef males, the offspring not seldom developing beef carcasses nearly as perfect as if of pure Hereford or Angus blood.

After the steer Challenger had won the beef sweepstakes at Chicago, certain reviewers, noting that he was of mixed race, announced his victory as a "slap at pure breds." In fact, it was the reverse; it was a signal proof of the singular value and prepotency attaching to pure breds. But for his Hereford and Shorthorn blood Challenger would never have been heard of outside his native pasture. We cannot expect that our beef stock will ever be of perfectly pure blood. What we can do, should do, and shall do if we are wise, is to grade up our herds, the higher the better, by employing pure-blooded males, the best that we can buy.

The spread of veterinary science and skill

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will, no doubt, in the course of a few years, enable us to keep alive and to fit for the market thousands of cattle now carried off by disease.

Improvement is perhaps even more telling in modes of feeding stock, a given amount of food being made to go a greater way than formerly. I must not give away secrets, but may remark that Challenger certainly owed his victory in large part to feeding, which you will believe on being told that he was one-eighth Holstein, no doubt a considerable handicap on him as a flesh maker.

The causes tending to diminish beef production are, then, as we saw at the outset: The ruin of much free pasture; afforestation; homesteading, favored by irrigation, by afforestation, by the creation of ponds, by thorough culture, and by the fuller settlement of rainfall areas; and lastly the great spread of the dairy industry.

Over against these deterrents on beef growth, we reviewed next the forces inuring to the increase of beef production.

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These we found to be better breeds, improved breeding, advance in veterinary science, and superior feeding methods.

Let us now compare as well as we may this set of "pros" and this set of "cons"—the things making for the increase of beef and the things which check the raising of beef. After such a comparison we cannot, I think, help concluding that, so long as we suppose the beef demand to remain about the same as now, the forces repressing beef production greatly outweigh those promoting this. The tendency of the beef supply must be, on this supposition, to diminish, and that of prices to increase. Such is the lesson taught by the prospective beef supply considered in itself.

In thus endeavoring to get at the net tendency of the beef supply, we have, to conserve clearness, assumed the demand for beef to be constant or nearly so. We must now examine this assumption; that is, we must consider the causes likely to affect the demand for beef. We shall here, as in the other instance, isolate the problem, trying to

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see what demand is likely to be, supposing supply to remain the same as now, not falling off, as in fact it may quite possibly do. We study first the causes tending to increase the demand for beef, and afterwards those tending the opposite way.

It is a colossal and significant fact that population in those countries which draw their main supply of beef from the United States is increasing by leaps and bounds, with no likelihood of curtailment in the near future. I need not enlarge on this consideration, for the bearing of it is perfectly obvious to all.

Improvement is incessantly going on in the quality of beef, making it more and more delightful and more and more suitable for food use. As artificial beef making increasingly takes the place of pasture feeding, the quality of beef will improve still further.

The rich as well as the poor are learning the exquisite deliciousness and the great food value residing in beef pieces of the cheaper sorts, such as shanks, shins and

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chucks. In driving into us these invaluable lessons the ruling high prices of beef are a blessing in disguise. Rapid improvements already visible and still to appear in cooking must also do much to make men relish beef and seek it as an important article of their diet.

On the other hand, there are forces tending to lessen the beef demand. Among these one naturally considers first the prevalence of vegetarianism. Whether this practice in diet will increase or diminish is more or less a matter of individual opinion. So far as I can judge vegetarianism is not spreading or likely to spread. If this is true, the fact is perhaps due to the discoveries of fallacies in vegetarian reasoning. It is urged against eating meat that in so doing one always devours a certain proportion of broken-down tissue with the live tissue. As if the same thing did not occur in eating vegetables!

It is also held forth that if a certain weight of nut food is, in nutritiveness, the equivalent of a given weight of beef, it is

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as good as the beef for food; which does not follow, inasmuch as the nuts may require for digestion many times the nerve force which the beef would call for. It is my impression that these, and similar insights, will keep vegetarianism from becoming at all general.

Doubtless many vegetarians receive meat food, knowingly or otherwise, through such devices as Mrs. Dodd used with her third husband in Myrtle Reed's story, "At the sign of the Jack o'Lantern."

"I knowed what his poor cranky system needed, and I knowed how to get it into him. He never saw no meat on our table, but all day while he was gone, I was busy with my soup pot, a-makin' condensed extracts of meat for flavorin' vegetables an' sauces an' so on.

"He took mightily to my cookin' an' frequently said he'd never et such exquisite victuals. I'd make cream soups for him, an' in every one there'd be over a cupful of solid meat jelly, as rich as the juice you find in the pan when you cook a first-class roast

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of beef. I'd stew potatoes in veal stock, and cook rice in water that had had a chicken boiled to rags in it. There wa'n't a day that he didn't have from one to four pounds of meat put in his food, and all the time he was gettin' happier an' healthier an' more peaceful to live with. When he died he was as mild as a spring lamb with mint sauce on it."

It may be feared that pork, mutton, and other forms of flesh will supplant beef. This is not likely; first, because they are never much cheaper for any length of time, and secondly because for the great majority of people they are less useful and less agreeable for food than beef is.

We have, then, as factors promoting the demand for beef: Growing population, betterment in the quality of beef, greater inquiry for ordinary cuts, and finer cooking; and as factors hindering the demand for beef: Vegetarianism, and the use of rival meats, neither of these causes being likely to prove very potent. A review of these various forces affecting the demand

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for beef thus reveals a very strong net tendency to increase this demand.

Now, recalling what was presented earlier, we have confronting us a strong net tendency to decrease the supply of beef cattle and also an equally strong net tendency to increase the demand for beef. From this exhibit it would appear inevitable that beef prices must in the next few years considerably advance.

But let us not conclude till we arrive at a conclusion. Must not higher prices immediately act to obstruct the enlarging demand? No, not necessarily, at least for a very long time. The same logic is here in place which I have in Chapter II employed in reference to agriculture, proving that it must hereafter be a more profitable business than heretofore.

The argument is briefly as follows: The population of the world is increasing with great rapidity. All of it must live off earth products, which, of course, include beef. If the fruits of man's toil other than husbandry were to grow in cost as husbandry articles

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must, the power of non-agricultural producers to obtain husbandry goods would fall off; but this is not the case. While husbandry commodities are going to be harder and harder to get, other results of toil are as a rule destined to be obtainable at lower and lower cost as the years pass.

The result must be that in spite of the higher cost of beef the ability of non-agricultural producers to obtain beef will not substantially change. The higher prices of beef will, therefore, to all likelihood, not cut down the demand, but (such parts of them as can be saved from the packers) will inure to the advantage of the beef raisers.

I conclude that the production of beef has no dubious or cloudy future, like deep mining, for instance. It will have its ups and downs, but must in the long run be like the path of the just as depicted in the Good Book. It is an encouraging occupation to engage in. If you are already in it, stay.

CHAPTER X

INDUSTRIAL EDUCATION IN A PRAIRIE STATE

UNLIKE what is called liberal education, which aims straight at personal development, disregarding the nature of studies if only they best drill or store the mind, industrial education is frankly utilitarian. It was originated and is carried on with the direct purpose of assisting men and women to gain a good livelihood—to enrich us in our possessions rather than in our characters.

A survey of industrial education anywhere in this country must reckon with several species of technical schooling, which, though not professedly utilitarian, are nevertheless kept afloat by bread and butter buoys. These forms of education may be distinguished from professional courses on the one hand and from liberal disciplines on the other.

Whether for weal or for woe the last



LAWRENCE BRUNER, D. Sc.,
Nebraska State Entomologist. Head Professor of Entomology in the
State University.

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years have witnessed a new demand for industrial and for all the various sorts of technical education, a steady increase in the number of students wishing courses of study directly preparatory to life-work yet not professional. The phenomenon is observable throughout the country, but accentuated as you travel west. More than ever take Latin, Greek, literature and history, the so-called culture disciplines, and pass thence into the professions. But more also seek college to prepare for industrial walks. Men who a few years ago would have gone directly into mechanical callings now use the university first to acquire training in mathematics and other foundation sciences and in the elements of technique. To know somewhat of university life and to feel its quickening breath, they swarm over the campus, filling our classrooms, laboratories and shops. It is seen that, as in the learned professions so also in mechanical pursuits, the largest success is achieved by those trained in the proper schools.

After these crowd the cohorts of intend-

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ing business men. Modern business is become vast, complex and intricate. Many branches of it deserve rank as professions because of the extensive, thorough and scientific drill they require. A common college curriculum is some preparation for business, practical men more and more admit, but a better is called for. Special schooling is quite as desirable for business as for a mechanical or a professional career.

Business cannot be reduced to so exact principles as law or medicine, but many a business has accumulated its fund of experience that may be shaped into scientific form and advantageously studied. Modern research brings business within the focus of science and develops treatises that practical men regard valuable on industry, commerce, transportation, insurance, banking, finance, accountancy and farming.

Universities cannot create executive ability or business genius, or usefully instruct in the details of any craft. Such are best learned by experience. Universities can, however, equip the man taking up

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business with a trained mind and with scientific knowledge of industries and methods, certain to be invaluable to him throughout his career.

Systematic courses in industry, commerce and business principles enable students to select their occupations intelligently, to learn the technique of a concern in minimum time, and to attain greater efficiency than men can get without such training. Youth entering upon business with a thorough grasp of the processes involved look forward to careers quite as alluring as the old professions offer. Business is dignified, relieved of much monotony, and its devotees given more enthusiasm for their work.

Other leading countries have business schools of the highest character. Our universities must provide 'the best business education they can if our country is to maintain her commercial position and extend her world markets in the face of the competition prevalent today.

Though many young men from my part of the country still attend eastern schools

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the demand for first-rate engineer schooling at home rapidly grows. The University of Nebraska, the only institution in its state answering this call, has long had a virile department of civil, of mechanical, and of electrical engineering, also one of mechanical drafting and machine design. A manual training shop is maintained, and a practical school of mechanic arts, where those who cannot advance to graduation receive such instruction as fits them. The engineering attendance grows steadily, with no help from advertising or from "snap" courses.

The university school of household economy offers a four-year course leading to the Bachelor of Science degree. This is for women what the agricultural, forestry and engineering courses are for men. A year's work in physiology, hygiene and first aid to the injured is required.

Domestic art includes sewing by hand and with the machine, and practice in the drafting, cutting, fitting and making of garments. Textiles are studied with refer-

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ence to their manufacture, financial value, wearing qualities and suitableness for various purposes. The drawing and designing of dress and furniture and the preparation of working drawings for wooden articles are required exercises. Harmony of color in dress, in house furnishings and decoration is studied.

Domestic science includes courses in general and in invalid cookery, in the planning, preparing and serving of meals, in marketing, and in the various forms of food preservation. The students practice in well-equipped kitchen laboratories. They investigate foods with reference to production, value, financial and nutritive, digestion, assimilation, relations to the human body, dietetics and the balancing of rations.

Home economics includes a study of the planning and furnishing of houses, with methods of heating, lighting, plumbing and ventilation; systematic housekeeping, the management of cooking, cleaning and sewing, and the perplexing subjects of domestic finance and service.

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Two classes of women are benefited by these courses, those who seek general information and culture and desire to make their lives helpful and efficient in the home, and those who, likewise wishing information and culture, expect to use their accomplishments as means of maintenance for themselves or for others.

The thought is to raise the standards of home life, to help individuals become healthier and happier and a greater power for intellectual and moral good in the community. Physical, intellectual and moral life so closely blend that it is impossible to abuse or neglect the physical nature or even be careless about it without injury to the whole being.

Women with skillful hands, trained minds and cultivated hearts, cannot but bear more wisely than others the home responsibilities sure to devolve on them, and they utilize better the many opportunities which women enjoy to render kindly service outside their homes.

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Nebraska high and grade schools do not as yet, to any extent, provide instruction in domestic art or science. When they generally do so, as it is hoped they may, the demand for such provision at the University will be less imperative.

From the University of Nebraska proceeded the original suggestion that western sand hills could be covered, and that profitably, with forests. It was upon our grounds and from representations made by our professors that the purpose took shape in the minds of government experts leading to the establishment by the United States of the forest reserves in the sandy counties, where pines are now actually growing with the utmost vigor and promise, assuring success to the nation's afforestation policy and the profitable afforestation, in time, of all the sandy areas in the West.

It was to assist still further this work, so advantageous to our country, that the University created its Department of Forestry. A four-year course is given, leading to the Bachelor of Science degree. The soil in its

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relation to vegetation and the relations of climate and rainfall to the forest covering of the country are carefully studied, also modes of afforestation, forest preservation, utilization and economy, good and bad trees for various uses and localities, seed collecting and nursery practice. Economic geology, botany, entomology and zoology, with all which we do much, well combine with this forestry drill. Each student has the opportunity to spend one or more summers in some of the government reserves engaging in actual forestry practice.

Throughout the Mississippi Valley the most important form of industrial education is agricultural. What I say on this relates primarily to my own habitat. I cannot undertake to epitomize the status of agricultural knowledge all over America, as is done so interestingly in W. S. Harwood's book "The New Earth." I draw a sketch with local details and color, not a continental map. Most of its traits, however, fit as well the other states between the great river and the Rockies, and, with slight modifica-

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tion, any state predominantly agricultural. For details here, as in what precedes, I lean heavily upon expert colleagues, whose words I sometimes use.

The first Morrill bill, so named from its author, the late Justin S. Morrill, of Vermont, introduced into the House of Representatives December 14, 1857, intended donations of land "to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts." Reported adversely and after passage vetoed by President Buchanan, being amended, it again passed Congress and was approved by President Lincoln, July 2, 1862. It was for "the endowment, support and maintenance of at least one college (per state) where the leading object shall be . . . to teach such branches of learning as are related to agriculture and mechanic arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." All the states and territories in the Union, without a single

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exception, now have educational institutions on this basis.

March 2, 1887, President Cleveland approved another piece of land-grant legislation, the Hatch act, specifically agricultural, intended to diffuse "useful and practical information on subjects connected with agriculture and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." This act procured from the United States for each state \$15,000 a year to be expended in connection with agricultural experiment stations established or to be established (as a rule) at educational institutions receiving the benefit of the Morrill fund. By the Adams act, approved March 16, 1906, this experimentation fund will in a few years be doubled.

By an act of Congress approved August 30, 1890, entitled "an act to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the

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provisions of an act of Congress approved July 2, 1862," each of the states became entitled to \$15,000 for the United States fiscal year ending June 30, 1890, \$16,000 for the next fiscal year, \$17,000 the next, and so on, the sum increasing \$1,000 a year till it reached \$25,000, which was to be thereafter the annual appropriation. This second Morrill act has the same object as the first, to further "instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic science."

These noble laws, the most influential educational legislation in all history, were passed in an avowed utilitarian interest. They, of course, meant no hostility to personal culture; indeed, beyond question, sought to promote that, as they have actually done. But this was incidental, their central purpose being to secure better returns from shops, fields, pastures, flocks and herds, to make easier and more successful the common man's efforts to get a good living—nothing gross or low, still a thought very

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different from what inspired school activity previous to about 1850.

Generic and inclusive phases of agricultural education are:

- I. Research, and
- II. Inculcation.

I deal first with research. Before proceeding, however, I pause for a quartet of remarks.

1. In all enterprises of rural interest the state university in a young state like Nebraska occupies a more central position than would be expected or possible in an eastern community. It is much more than a teaching agency. People turn to it for counsel upon almost every problem arising on the farm—concerning soils, minerals, water, crop planting and care, what trees to set out for shade, orchard or forest; problems about farm or range stock, how to purchase or handle to best advantage, how to fatten and how and when to market with greatest profit.

2. "We," "our," "us," in these notices, while meaning primarily university people,

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include as well a great many farmers, breeders, fruiterers, horticulturists, seed-raisers and other neighbors co-operating or competing with the university in fostering agricultural advance.

3. Its activity in the realm of agriculture is after all by no means, as its compass might suggest to some, the whole of what the university is doing. I am here picturing, on the contrary, about half the business of one among the seven colleges of which the institution is composed.

4. Its wide and hearty work of industrial education in no wise enfeebles the university's agency in other spheres. The utilitarian and liberal motives are not the same, but, far from being at war, they are mutually helpful. President Jefferson saw this, and there is no better proof of his wondrous breadth and insight. He founded the Phi Beta Kappa society, with the motto, "Philosophy the pilot of life." He was also the John the Baptist, or rather the Elijah, of the present agricultural schooling dispensa-

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tion, urging the erection of an agricultural professorship in every college.

The third president of this Republic rarely, if ever, saw a Phi Beta Kappa farmer, but now such farmers are numerous. Industrial study frequently turns liberal as soon as it gets under way. Well have I seen students come to college bent wholly on preparing to earn and gain, change temper completely, and become heartiest devotees of culture or of pure science, distancing classmates who began with expressly "liberal" intent. Such recruits, a whole army, take the country through, would be lost to the arts and sciences but for the king's shilling held out to them in the way of utilitarian mental opportunity.

This argument is, of course, not the only one. *Noblesse oblige*. An institution of highest learning, with its costly outfit, is bound to afford its community every species of help it can for which there is call. Rewards may be ignored; they have a way of appearing when due, the surer when not expected or bargained for.

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"Not once or twice in this rough island story
The path of duty was the way to glory."

The university experiment station conducts investigations requiring technical knowledge and laboratory service, with which, therefore, individual farmers could not cope. Many of the experiments are not fruitful at all. Others disclose ill conditions without suggesting remedies. Others are of incalculable benefit, immediate and certain to last.

The Morrill legislation effected little till the Hatch act began to bear fruit. Since then progress has been rapid. The first and the highest though not the most popular phase of this advance has been the discovery of agricultural truth, including the invention of appliances and the working out of methods. The Babcock test for butter fats is a striking appliance. By it any intelligent person is able in a few moments to determine the per cent of fat in any butter or cream. All cream depots and dealers use it. It is to dairying what a system of

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weights, measures, and coinage is to commerce.

The most important problem in agriculture is, and always has been, conserving and increasing soil fertility. By good farming you perform the miracle of eating your cake and keeping it too. The principles involved in this magic were laid bare by Liebig's investigations given out in 1840. Nearly the entire commercial fertilizer industry, amounting to millions of dollars in our country alone, is based upon the doctrine of this great teacher, that organic manure, portions or the debris of plants and animals, may be replaced by the inorganic compounds into which it breaks up in the ground. Supplementary to this came Hellriegel's epoch-making discovery that by bacterial action on the roots of legumes atmospheric nitrogen may be made available as plant food. The work of experiment stations has been largely the application of these fundamentals and the refutation of erroneous conclusions from them. Hellriegelism as worked out at the University of

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Illinois is stated in the following propositions:

"Soil nitrogen cannot be used by plants until it is changed to the form of nitrate nitrogen by the nitrifying bacteria.

"Atmospheric nitrogen cannot be used by any agricultural plants excepting legumes, and even leguminous plants have no power to obtain nitrogen from the air unless they are provided with the proper nitrogen-gathering bacteria.

"As a rule, each important agricultural legume must have its own particular species of bacteria.

"In general agriculture in Illinois, whether it be grain-farming or ordinary stock-farming, the growing of legumes is absolutely essential as a part of any economic system which shall maintain the fertility of the soil; and for the successful growing of legumes the presence and assistance of the proper species of nitrogen-gathering bacteria are also absolutely essential."*

* Harwood, "The New Earth," pp. 45, 46.

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On every level of redemption, casting out devils goes hand in hand with working miracles. The Geneva station, by showing the limitations of soil inoculation, pretty effectually discouraged "vestpocket fertilizer" promoting. Twenty years ago the agricultural press loudly praised corn-grinders, corn-and-cob-grinders, oat-grinders, rye-grinders, horsepower grinders, windpower, waterpower, steampower and hot air grinders. Now, literally according to the words of Scripture, "the grinders cease because they are few." Dean Henry, of Wisconsin, bitterly denounced by interested manufacturers, demonstrated that under ordinary circumstances in the West, grinding grain is not profitable.

Professor Lyon, while in Nebraska, usefully tested the propriety of looking to Russia proper, Siberia and Turkestan for varieties of grain and alfalfa adapted to our plains. He found that durum or macaroni wheat and the early varieties of oats and corn will flourish here and be highly profit-



**Agricultural Hall and Home Economics Hall,
University of Nebraska.**

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able. So will the sugar beet. Before a sugar factory arose in Nebraska we had proved that the state could grow sugar beets with profit. Then farmers and capitalists took hold.

We have ascertained to a most valuable extent what varieties of grains, grasses and forage crops are at once hardy and productive in each several section under our charge. The wide introduction of winter wheat in Nebraska was largely due to our experiments. Over 100 varieties were sown. Most amounted to little and many were valueless; but a few varieties, notably the Turkish Red, proved hardy over a large territory which had previously grown nothing but spring wheat. As a result of this tryout the state's winter wheat production increased, it is safe to say, more than 10,000,000 bushels a year, making wheat profitable where it had not been so. Tame grasses have been introduced, brome grass making hardy and succulent pasture in precincts where alien grasses had never flourished,

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meadow fescue for both meadows and pastures, and, most notably, that wonderful plant, alfalfa.

The original introduction of Kherson oats into the United States was by the Nebraska University. This occurred in 1897, the grain coming from the province of Kherson in Russia. Years of experience have shown this oat to be far the most successful grown in the light rainfall parts of Nebraska, outdoing the sixty-day oat, which also promises well. In central and western Nebraska the Kherson yields, in favorable years, as high as 50 bushels to the acre; in ordinary years, usually 10 bushels more than other oats, while in dry seasons it comes to crop when later varieties fail. Thus far the quality, the early maturity and the high-producing power of this marvelous oat continue unabated.

Corn experiments to improve seed and to secure varieties adapted to various localities have produced astonishing results. Progressive farmers increase their acre yield from 5 to 10 bushels. The educa-

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tional process will shortly push up the acre yield five bushels over the entire 7,000,000 acres which Nebraska plants to corn, a gain worth to the state approximately \$10,000,000 a year.

Agricultural research won signal triumph in showing that semi-arid farming may and must succeed. Till quite recently the thought has been all but unanimous that profitable farming upon non-irrigable areas is absolutely dependent upon precipitation, so that if this falls much short of 30 inches, no matter how rich your land, your alternatives are cattle husbandry, travel, or death. This thought is more fully exhibited in Chapter IV.

Fallowing every odd year with the possible aid of a cover crop assures crops even years in many places too dry for yearly crops by any method. The principle is that intensive tillage during the odd summer, plowing and continuous working thereafter, stores in the soil wet enough to make a crop with minimum wet the even year.

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Irrigation and dry agriculture is some day to be the typical and the most successful of all agriculture. No over-wet seasons or periods occur such as in humid areas either destroy crops outright or ruin their quality. Harvest weeks are sunny enough for the work. Irrigation farming loses its gambling aspect as much as manufacturing. This feature will enable rural pursuits to command and retain first-class talent to a greater extent than is now the case.

Millions of acres will be added to our effective agricultural domain, whereon will be settled in perpetuity a thrifty, happy, prosperous and strong population. This prospect is one to arouse patriotic enthusiasm.* Its well-to-do farmers are a republic's most reliable bulwark. More than other classes they think sanely, see things steadily and see them whole. They love

* According to the *Omaha Bee*, November 16, 1906, General Greeley stated in Omaha, November 16, 1906, that the United States Army had ceased recruiting in the Pittsburg, Pa., district, owing to the painfully larger percentage of applicants for enlistment who are physically unfit. This no doubt relates both to the mining and to the manufacturing population.

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peace and pursue it, but at crises of national peril,

“When the guns begin to shoot,
And there's trouble in the wind,
There's trouble in the wind, my boys,
There's trouble in the wind,
Oh, it's please to walk in front, sir,
When there's trouble in the wind.”

at such moments farmer boys can always be counted on to man the firing line.

We improve the carrying capacity of semi-arid pastures by new grasses or resting the pastures while growing. We raise alfalfa on tablelands where no water nears the surface. Selecting varieties or methods of tilling for it will make alfalfa possible over thousands of acres now under native grasses. With alfalfa, dairying and pork are profitable and cattle and horse raising standard industries. Barley and emmer are regular crops and, in places, winter wheat.

A considerable proportion of the potatoes raised in Nebraska are from the arid parts. The quality being superior has established a good reputation and a market. The industry has come up with little effort to

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determine best varieties, methods of cultivation or rotations. With systematic study the trade must be astonishingly profitable.

We have learned that manure, besides fertilizing, invaluablely maintains and increases humus. Rotation, with emphasis upon grass crops, also conserves humus. Grassing land for a series of years makes it profitable as meadow or pasture, increasing corn yield, in cases, 25 to 50 per cent.

In feeding cattle a given balance of nutrients through corn and alfalfa, with a little stover or unhusked corn, secures the cheapest beef production. Alfalfa is vastly superior to prairie hay, and the extension of its area, supplanting the less valuable and lower yielding native, means a vast increment to our wealth. Good feeders no longer use prairie hay with corn alone, but with corn and a protein food like oil meal. They are giving new attention to rough fodder. Cornstalks, wasted by unenterprising farmers, if shocked immediately after the ears ripen, possess a food value one-third that of the corn itself.

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Profits are increased by feeding pastured pigs mixed grain rather than corn alone. The breaking strength of swine bones is increased 16 to 22 per cent where tankage or ground bone is fed with corn. Alfalfa, too, is a great bone strengthener. One great item of the nation's wealth is \$665,000,000 worth of dairy products. No farm crop brings this sum except corn. The meat industry does not. The dairy product cited combined with the value of dairy cows, \$482,000,000, reaches a total of \$1,147,000,000, or more than all the meat cattle of the land are worth together with hogs and sheep.*

New England counties, nearly abandoned for their poor soil, have reached high prosperity through dairy farming. Nebraska, too, finds dairying a veritable gold mine, where the silo, the milking machine, the centrifugal separator, and the butter accumulator form, so to speak, a triumphant cyanide and smelting process. The silo has on the university farm reduced the pro-

* Figures in this paragraph as of 1906.

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ducer's cost of butter about 20 per cent. We prove whole milk too expensive for rearing calves, skim-milk with meal, oats or bran, offering a satisfactory substitute far cheaper and leaving us the cream as clear saving.

A bushel of grain from the farm carries away a large amount of fertility. So do animals' carcasses. Where butter is sold what leaves is mainly carbohydrates, of little value as fertilizers. By dairying you restore or maintain land fertility and sell instead the products of air and sunshine. As a means of condensing farm raw material into a commodity of maximum value by the pound or the cubic inch dairying has no equal. Butter from the central United States can be marketed anywhere in the world. Rough fodders and grasses are thus concentrated for export.

The industry tends to intensify farming. It fosters frugality and industriousness, as it demands painstaking methods and steady employment the year round. It can be carried on where high land values render common farm practice unremunerative.

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Thus Denmark, whose people occupy small farms close together, has in its dairy business a bonanza. That little country sells over \$40,000,000 worth of butter yearly, maintaining, to keep quality and methods perfect, no less than 16 dairy schools. Could we make such butter as the Danes, the United States would soon possess the English market, worth \$40,000,000 or \$50,000,000 a year.

Another fortune would be ours were the annual product of the American cow advanced a pound. This and more will occur. Good care and management would increase the average cow yield 25 per cent. A cow owned by the University of Nebraska produced in a year 17,000 pounds of milk and 650 of butter, six times the Nebraska state average, and one of the best records known.* A daughter of this cow has equaled her dam both in milk and butter. Here is prepotency, promising, with due care in breeding, a progeny, a strain, a family producing unprecedentedly.

* It has been surpassed considerably by a Guernsey cow.

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In all the agricultural states farm land values involve a speculative element. This must, ere many years, in most localities drop out, producing slump in land values unless something is done to increase the earning power of land. No systematic agency is at work to this end save the agricultural colleges and the experiment stations.

Advanced farmers, a growing class, are aware of this. They know all that we know, and crowd us for more information. Harwood* says: "Greater practical progress in all departments of life dependent on the soil has been made in 50 years than in 50 previous centuries." Still, the general farming public learns but slowly.

We patiently and copiously distribute literature without money and without price. It is not enough. The effective diffusion of new ideas requires living advocates. Farmers' institutes send out capable and earnest speakers like the apostles of old. Agricultural and other papers expound, discuss and exhort. State and county fairs are held.

* "The New Earth," p. 4.

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Demonstrations are conducted to induce the doing of what well-informed farmers know they should do. Model farms and creameries are run, model creatures and herds reared, profitable feeding explained and preached about, animals fitted for and shown in the ring.

Most states make it a part of the station's duties to inspect fertilizers and feedstuffs. Some extend the surveillance to human foods, and a few add veterinary and horticultural oversight. This activity, protecting from swindlers, helps experts to get a hearing. Fertilizer information itself awakens many. Curiously, the most money made on land is not now made on the best land. Wealthy farmers, not compelled to good methods, fail to fertilize their fields judiciously and are surpassed by the more enterprising with poorer natural advantages.

In one section most farmers strongly opposed "book" farming. One, however, took to reading bulletins, with the result that he decided to erect a silo. He found

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plans and specifications in a bulletin and proceeded. With all their incredulous and derisive smiles his neighbors could not but note the results from his dairy herd. That community is now full of silos.

The bumper crops and fine animal specimens on our university farm and experiment stations are telling lessons which multitudes read. The grain average to the acre from our farm is twice that of the state, save in corn; our corn average is twice and a half the state's.

A blessed evangel is some of our simple work on the farm and out in the state begun as experimental and then continued more for publicity and hortatory ends. We demonstrate an almost perfect control of the apple scab by two sprayings with bordeaux. Results attract wide attention, and fruit growers slowly recognize their importance. We keep down cedar rust on apple trees by bordeaux spraying in spring, showing that cedar trees near orchards need not be removed.

We show that cover-crops make such

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trees as peaches and Japan plums more hardy. Oats, millet or sorghum is sown about August first in soil duly tilled and moist. This cover checks the tree's growth by drying the surface and causes its wood to mature earlier. By protecting the ground from freezing and the snow from drifting, covers aid materially against injury to tree roots in winter.

Straw mulch increases the yield of vegetables like cabbages, tomatoes, beans, cucumbers and potatoes. Most vegetables require less labor under mulch than under cultivation. Mulching can be done before the middle of June, the vegetables requiring absolutely no care during the busiest and driest part of summer.

Coming to the more systematic means of agricultural instruction used in my state, I notice first the severe four-year university course, leading to the degree of Bachelor of Science in Agriculture. Here 30 out of the total 126 hours are given to the rigorous, scientific study of strictly agricultural subjects. Much work in biology and in geol-

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ogy is required besides, and the mastery of at least one modern foreign language. English is prominent each year.

Holders of first and second-grade county teachers' certificates in Nebraska must pass "a satisfactory examination in . . . the elements of agriculture, including a fair knowledge of the structure and habits of the common plants, insects, birds and quadrupeds." These elements are taught in many of our schools. Slender results appear as yet, but all possible efforts are making to render the instruction fruitful. The danger is that being without proper appliances or trained teachers, and hence necessarily superficial, it will amount to so little as to disgust many, producing reaction, hindering future efforts when we are able to enter upon them more efficiently. Nature study in the schools is very valuable so far as it goes. Nature study, however, is not agriculture; at best it only prepares therefor.

Much more is doing by the school of agriculture carried on at the university for students of academy grade. The course,

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covering four years, while including chemistry, physics, civics, and history and emphasizing English, mainly embraces subjects directly related to agriculture. Such are breeds and judging, general stock, dairy and poultry husbandry, agricultural botany and entomology, horticulture, soils, crops, modes of tillage; the anatomy, physiology and hygiene of domestic animals; forge work and farm machinery, farm economics and management.

Instruction methods are of the best. Laboratory work is prominent. Specimen animals of the various breeds and types are brought before whole classes in the pavilion, lectured upon and judged by the score card. Pupils acquire great proficiency in this art, outdoing their seniors at home, who proceed by rule of thumb.

A great deal of useful veterinary knowledge is imparted, the diagnosis and treatment of ordinary animals' diseases, locating horses' lamenesses and determining often cause and cure, the principles of good shoeing, and so on. Farm machinery has to be

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mastered by all men students, who must also acquire the power to handle and sharpen tools, to build, to repair, to renew parts, and to paint.

The judging of seed corn and other seeds is a regular exercise, by which, along with careful lectures and demonstrations, students learn how to tell good seed from bad and how to produce the best.

The war against bad seeds and slovenly methods of judging we have carried into Africa. Three great railroads in Nebraska place well-arranged trains at our disposal, free, to run over their principal lines, stopping at each main station for a 25-minute lecture on good seed and the way to tell it. The minute a train stops, one, two or three cars are filled with farmers and farmer boys eager to learn. More interested classes I never witnessed. A passenger car, one end fitted up with charts, pictures, samples and a little platform, is an excellent classroom. As the 26th minute begins the whistle sounds, out go our pupils and the train sweeps forward to the next station on

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the program, where the exercise is repeated. Many a farmer brings seed ears, evidently for the purpose of showing that he, too, knows. The lecture makes him modest, so that, instead of parading his seed ears, he leaves them in the seat or carries them out for feed to his team.

Hardly any speech could too favorably characterize the usefulness of this school. I know of no other industrial education of similar compass so successful. Nearly all graduates settle upon farms, not from necessity, but from preference. Their farming is profitable, their lives happy, their culture high and their citizenship exemplary. From most of the branches taught, women may profit as well as men. Dairying, horticulture and home economics they find peculiarly to their taste. The scope of women's self-help chances is much enlarged. General agriculture and stock rearing are not beyond women's powers, for many women are getting rich at them. Best of all, men and women graduating from the school become agricultural exemplars and

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apostles. Each is for the whole community a center of light and inspiration.

Gigantic and encouraging as our propaganda for agricultural enlightenment is, it is only beginning to succeed. In agriculture, as in medicine, knowledge far outruns practice. The expert agriculturist like the up-to-date physician finds patients callous, often more so in proportion to their need. The great desideratum of agricultural education today is missionary methods and enterprises. We still know all too little, yet could we bring farmers to live up to their best available light they would speedily become the wealthiest of men. One is at times tempted to think that people actually hate wisdom.

When you reflect upon the numerous agricultural graduates sent out, the tons of agricultural books, leaflets and papers, lucid lectures and ardent speeches, profitable tillage, model dairying and breeding that on every hand appeal to our eyes, our reason and our pockets; surfeits of crops following right culture, great bulls more impressive

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than great bulletins, and horses, steers, sheep and swine topping markets because bred and fed right, and then see how little, relatively, it all amounts to in the community at large, men's apathy and gainsaying, farms run down and sold for debt, shiftless tillage, breeding males unfit even for the shambles, cows not paying for their keep, and other malpractice galore—viewing all this, I say, who can blame the Honorable Secretary of Agriculture if now and then he breaks out in the psalmist's unparliamentary language, "Understand, ye brutish among the people: and ye fools, when will ye be wise?"

I reject some of the reasonings in Mr. James J. Hill's Minnesota State Fair address referred to in the introduction of this volume. The outlook is less dark than he paints. Lumbering and mining are not so near their end. But the tenor of that address, Mr. Hill's castigation of the country for its still lingering apathy toward agriculture and his solemn appeal for reform, is as just as it is eloquent.

CHAPTER XI

THE RISING GENERATION

“LO, children are a heritage from the Lord,” says the Good Book.

George Adam Smith translates as follows a morsel of Psalm 110: “Volunteers on the Sacred Mountains are thy people in the day of thy battle; from the womb of the morning come forth to thee the dew of thy youth.”

The verse poetically pictures an army of young men with youthful strength and enthusiasm mustering at the command of their king. In multitudes, in fresh vigor, and in dazzling glitter of military array, they come streaming on like the morning sunbeams over a dewy mountain top. With equal fitness and charm may this old Scripture be taken to portray the rally of Kansas and Nebraska young people at school festivals or on a high school day at the university.

Many people at times wonder whether



**JAMES IRVING MANATT, Ph. D., LL. D.,
Professor of Greek History and Literature, Brown University.**

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mankind's new recruits will prove as valiant as the veterans now on the firing line. I believe the new levies will excel even the old guard itself. It is in this faith that I always welcome the companies of youth gathered at school rallies. They bear the dew of fresh life and the promise of noble activity. They are the hope of the state. I congratulate all teachers privileged to take part so in creating the future republic. Not a day passes in your school when your influence is not felt in the work of developing life, soul and character in coming leaders.

Much as we do, large things as we plan for them, we do not sufficiently appreciate our rising generation. We underestimate the promise and the intrinsic possibilities of development of our youth. Their potentiality far outruns our faith. We school them indifferently while they attend school and as they mature or graduate we do too little to inspire them toward high careers.

Parents, families and neighborhoods entertain too meager notions touching the

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mental and moral natures and the character and work possibilities of their children. We ought to expect that our children will be great and worthy, far surpassing their parents, and we ought to show them that our expectations touching them are thus large. Children should never be snubbed, rarely be repressed. Let us not be startled or offended if a child develops real originality. Every child is a direct manifestation of the Divine Spirit, and ought, if duly cherished, to prove a revelation, a sort of miracle.

There is a widespread belief, held by not a few educators of mark, that education might be carried during childhood years twice or thrice as far as it usually goes even in the most progressive and best schooled communities, that the generality of our children might possess at 10 or 12 the mental growth and discipline seen in the most precocious children known, so that the high school period instead of beginning at 12 might end there.

I do not share this view in its entirety, or deem the end it proposes wholly desirable,

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believing that the development of semi-prodigies in that way, even if generally possible, would mean an impoverishment, to some extent, of natural childhood as built up by play, romping, and the spontaneous tutoring of children by children.

Still there can be no doubt that if children were, during their very earliest years, better inspired and more systematically encouraged to think well of themselves and their powers, life, its duties, possibilities, and glory, young persons' mentality would go forward with vastly greater rapidity than now.

History's crowning deeds have been performed by young men. Alexander conquered Asia, and Napoleon Italy before they were 25. When our Civil War began, Grant was only 39, McClellan 35, Sheridan 30. Stonewall Jackson died under 40. Of the 2,778,000 enlisted in the Union army, 2,150,798 were under 22 years of age; many thousands under 19, and nearly as many under 17. The younger Pitt was Prime Minister at 25.

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Richelieu was secretary of state at 31. Raphael, Byron, and Pascal died at 37, and Gustavus Adolphus at 38. Don John of Austria won Lepanto at 35. Cortez was little more than 30 when he sighted Mexico. Innocent III, the greatest of the Popes, dominated Europe at 37. John de Medici was a cardinal at 15 and became Pope Leo X at 37. Luther reached the height of his power at 35. Maurice of Saxony died at 32. Nelson and Clive had each won glory at 30.

Home education ought to enrich and further young souls more than it is usually made to do. This may in the main be only saying that parents ought to be more intelligent, alert, and zealous than most of them are, all of which is true; but parents, such as we find them, could give their children a much better start in the things of life, mind and character than most of them actually give.

Our formal school work, as well as the influences preceding school, needs amendment. The vagary is still too common that education, to be fine and high, must be, as

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it is called, "liberal"; that what simply makes common life more intelligent and efficient is not education at all, at least not the education for gentlemen or ladies, for leaders in society. I have heard many a tirade to the effect that a person cannot be liberally educated who is at the same time practically educated, practicality and education being thought of as opposites.

We are seeing that all this is wrong. Education is not flimsy, poor, or illiberal because it touches the near interests of mankind. The education that teaches men and women how to do well the ordinary tasks of life; to master nature and natural difficulties; how to live decently, make their homes and characters beautiful, and their lives successful, is as truly education as any can be. Educational theorists are telling us that the reasoned and scientific consideration of matters touching our daily life is specially educative. The best schooling nowadays, in view of its very practicalness, is calculated to be more educative than abstract study.

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We joyfully hail the promise appearing in many ways that there is to be better education in our common and public schools. You cannot have a strong university unless the teaching in the schools below to the uttermost parts of the state is what it should be, day after day and from month to month. Without this the university will droop, not only in the quality of its work, but in the numbers of those desiring to attend.

The schools are rearing many pupils who will go far beyond the most of us in the education they will receive. The youthful minds we are training will soon be adult minds, many of which will have gathered discipline and stores of knowledge that will surprise those now teaching them.

That these schools, so important to the life of the state, that this public education, may accomplish the best results, certain new conditions ought to be met.

It is a fitting time, after so many fat harvest years, to urge that the salaries of good teachers be liberally increased. Though the state is wealthy, use every pos-



1. State Prize Winners in Boys' Corn Club Contest, 1911.
2. Demonstration in Bur Clover, Arkansas, 1911.

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sible economy that is true economy. I would, however, rather save in any other way than in the salaries of the public servants who teach our boys and girls. Let us give them at least a reasonable, and when possible, a liberal living.

There should be greater permanency in teachers' tenure, greater incentive for the man or the woman who goes into teaching to keep at it until his or her active years end. Permanency in the profession is the rule on the continent and in England, as it formerly was in the United States. You have in many a story the beautiful picture of the gray-headed schoolmaster whose teaching reached through three generations of people who had felt the influence of his mind, the sweetness of his heart, and some of them the hardness of his birch. Few teaching careers in American life today are of that sort.

Often when teachers are permanent in the profession, they too readily shift the places of their labor. Teachers' bureaus are at fault in this. If there is a town yonder

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where a little larger salary is paid than you are getting, you are apt to receive a letter from the bureau suggesting that for a consideration your name will be put in at the better paying place, and that your election will be forthcoming. Though you may be well situated and paid and would not think of changing were it not for this outside temptation, off you start, breaking invaluable ties, all for \$100 or \$200 extra salary. Teacher friends, if you want to be influential in teaching, don't move until you are as good as forced to. Generally, young teachers should remain where they are and become powers for good in their schools, get well acquainted with citizens and parents, interested in church work, in community enterprises, in the growth of their municipalities. The influence of such teachers over communities and the blessedness they put into human lives is incalculable.

The country school ought to have country air. There is not a school in the state that does not suffer from bad air. Arithmetic examples, spelling exercises, the literary

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matter placed before pupils, deal almost exclusively with city affairs and do not breathe the country atmosphere. There are, of course, lessons in nature, but all these approach subjects as the city mind apprehends them. School atmosphere must suggest the country and breathe rural things. There is no need that we take over exercises and examples intended primarily for city pupils. Our skies, our stars, our sun, our moon, our fields, our grass, our brooks, our lakes, our cattle, our homes, furnish ample and eligible material for all school literature and texts covering the subjects to which they relate. The question of suitable matter for textbooks and school literature is further worked out in the following chapter.

Having started our wards with the best home influences and schooled them as well as we may, we are called upon to give each of them a helpful and inspiring send-off into life, instead of leaving them at graduation wholly to themselves, to grope and wander about until some accident makes or breaks them.

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Parents' and preceptors' duty at this all-important juncture in the life of the young connects itself mainly with four points: 1. Aspiration. 2. Choice of calling. 3. The necessity and blessing of work. 4. Steadiness and persistence in what is undertaken.

Imagine a wise and loving father having a heart-to-heart talk with his son the day the latter completes his one-and-twentieth year.

"My son," he says, "you are of age. You possess sound health and morals. Sacredly preserve these. You are now your own man, and must henceforth, in a new sense, be the creator of your own destiny. I love you no less than ever, but just because I love you I leave you to yourself, subject only to my counsel when you seek. If I had great wealth I would not give it to you. Gold gotten without his own effort curses a young man instead of aiding him. If you would succeed, cherish large ambitions and lofty aspirations. 'Hitch your wagon to a star,' not to a stump. Believe in yourself. Let your business be a calling, not a job. Aim

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at and plan for a career with large-minded, far-sighted, rational resolution.

“Much depends on your choice of calling. Take due account of your powers, preferences and propensities, and then adopt the line of life which appeals to you the most. Aim too high rather than too low. If in doubt here, consult your wisest friends. Friends often know our strength better than we do. If a sagacious parent, teacher or other acquaintance thinks you are fit for a given enterprise, you can safely undertake it.

“It is not necessary, however desirable, that your life work should lie in the field for which school or college is supposed to have specially fitted you. A man’s real bent often appears only after school days are over and serious responsibilities confront him. What has been taught him will, in any event, be found of service. No mental attainment of the slightest importance is ever lost.

“It is also not necessary, however desirable, that you should take up your father’s

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calling. If you are averse to it for any good reason, turn elsewhere, and turn resolutely. Among the worst mistakes parents ever make in planning for their children is the effort to coax or force sons into the old business at the old stand. Let us, by all means, urge the dignity and promise of life upon the farm, yet it is as good as certain that some of our sons would best leave farming for some other pursuit. Perhaps my boy, reared at the old homestead, will acquire fame and fortune as an artist, a surgeon, a preacher, a statesman. Do not try to down what is clearly a native bent.

“Work—with energy, enthusiasm and unflagging perseverance. Nothing is achieved in any calling without this.

“The great teacher, Francis Wayland, from whom came the idea that bystanders often size up a man better than he can do it himself, used to say, ‘If sagacious people near you think you able to master a difficult and desirable position offered you, accept it; only, when you get it, work like Satan.’

“Work at high voltage. Never dawdle.

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Show 'jasm.' Do you know what 'jasm' means? Let me make dictionary for you a moment. 'Jasm' is when a circular saw, making 2,000 revolutions a second, runs through a keg of 10-penny nails. That's 'jasm,' my son. Put it into all your work.

"Having adopted a life calling on the best advice and reflection at your command, persevere therein. Swerve neither to the right nor to the left. Your hand is on the plow handle; turn not back. Temptation to waver will assuredly come. There will be moments of discouragement, there will be beckonings of apparent fortune. Do not heed such.

"When E. M. Stanton was secretary of war in President Johnson's cabinet and Johnson was trying in every way to displace him, Charles Sumner telegraphed: 'Stanton, stick!' Let this message come to you with megaphone thunder whenever you waver in your profession. Be no quitter. Instead, stick, *tenax propositi*, steadfast to your purpose."

CHAPTER XII

THE CRUSADE FOR THE COUNTRY SCHOOL*

IN most of its aspects city life is commonly thought more desirable than life in the country. To date it has probably been superior on the whole, and it may still be so; but the advantage, if it exists, is less and less pronounced. In a hundred ways country residence is growing in desirableness. Elegant mansions, vieing with the best city houses in almost all imaginable comforts—steam heat, running water in rooms, gas for cooking and illumination, electric lights—and in art and luxury as well, are numerous now far out upon the prairie, miles from railroads; and such establishments multiply yearly. The free delivery of mails, already general in many rural parts, will increase as roads improve. Motor carriages will supplant horses. To say nothing of 'phone and wire messages, newspapers and other intelligence by mail

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CARROLL GARDNER PEARSE,
Superintendent of the Milwaukee Public Schools. Past President of
the N. E. A.

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will speed from postoffice to destination with railway promptness.

The improvements named will tempt all who can do so to build and live in the country even when part of their work must be in town. A reflux of population from city to country will certainly occur when roads, with mail, telegraph and telephone facilities, are greatly bettered, and schools, concerts and churches as fine in the country as in town.

"Our civic centers are expanding with amazing rapidity," says Seaman A. Knapp, "not because men love brick walls and electric elevators, but because they there find greater earning capacity and certain conveniences and comforts which have become a necessity. Make it possible to have all these amid the quiet and beauties of nature, with rapid transit to business centers, and vast numbers that have sought an urban home will turn to the country for a home, at less cost, with purer air and water, greater convenience and beauty, cheaper food and more contentment."

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There is to come a richer, deeper and more general appreciation of the country and of country things. The country is not alone healthful, to unspoiled men and women it is every way enticing. If any think it dull they lack culture. Young people will stand any amount of drudgery if mind work and culture accompany it. The farming familiar to so many youths doesn't answer any aspiration.

Happily, farm life is undergoing reform. Farmers and their families are learning elegance in and about the home. More and more they insist upon spacious houses, decorated interiors, pictures, tasteful lawns, lavish flower gardens, rare trees. The tillage of fields, the whole management of farms, is becoming an intensely scientific process. Farming will soon be so carried on that the mental faculties and art sense of farmer boys and girls will be appealed to by it more than would be done by almost any kind of city work.

Reaction in favor of the country is not yet marked so far as concerns schools and

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schooling. The best teachers, the finest apparatus, the stateliest schoolhouses, the amplest appliances for schooling, in nearly all particulars, are still found in the cities. Only of late are we able to mark change. Country schools ought not to be inferior. They should be the best. This not alone for the farm folk's sake, but for the country's. The weal of rural communities is no affair of these communities alone, but concerns the entire republic.

Hearing me place the stress I do upon the education and upbuilding of the rural classes, some might accuse me of talking politics and bidding for the farmer vote. My thought is much more serious, and it is based on the most fundamental and rock-ribbed economic reasoning. The high welfare of men in the long future is bound up with agriculture. As agriculture shall fare in time to come so human civilization itself must fare, the interests being one and inseparable.

The other generic supports of men's industry—mining, the forests, and manufac-

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turing—are fast nearing their term, which means that fruitful toil by human beings is to be inevitably thrown back more on the land, its sole adequate and final resource. But the land itself will fail save as the tilth of it is placed in intelligent hands. The demand for a better educated rural populace is but the undertone of men's call for a larger and better life.

It is clear that nothing else can more momentously conduce to this grand end than perfecting the country school. It is an indispensable requirement. Let all country schools be rendered just as fine, just as complete, just as efficient as resources permit. There is no reason why country schools should not be the best in existence. Their possibilities are as great as their importance. In many respects all the natural advantages lie with them. As we are not sufficiently awake to the value of the country school, so we do not begin to appreciate the future that can be created for it.

In the classification of pupils one might at first imagine that town schools must be

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the more fortunate. They are usually large, giving the fullest opportunity to sift. But the matter is not so simple. Numbers afford chance for fine grading, but they also impose the necessity of large roomfuls, which make aught like perfect teaching an impossibility. A great many country schools will remain small, with not over 25 pupils in a room, enabling the skilled teacher to apply the personal method, as can rarely be done in cities. What a benediction is freedom to deal with pupils one by one, or in very small classes, that individual peculiarities may be noticed, to be cultivated or to be repressed!

No one will question that in pupil material country schools are greatly the better off. As a rule country pupils have the firmer constitutions, endurance and health. Generally speaking their intelligence is higher and their thirst for learning greater. Their sensibility is the more open and free. City children have fewer plays involving imagination. The average morality of country children is far and away superior

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and they have an impatience to learn which is not to be paralleled save by the rarest boys and girls in cities. The whole morale of schools in the country may easily be made loftier than is common in city schools. How helpful in this direction is the freedom country children have to play! It would also seem easier to secure from them regular attendance. Less occurs to distract their attention from study.

Country schools are animated by a charming spirit of democracy not found in cities, preventing cliques and the partitioning of school society into higher and lower. The stanchest type of Americans is that country and village population, whether Saxon, Celtic, Latin or Slavic in origin, so little subjected to the undesirable influences of our newest immigration. Only, in far too many localities, this sturdy American stock is failing to make the progress it should. Our social resources need a development at once more intensive and more intelligent, to supplement the spontaneous efforts upward,

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with which in our period of extensive growth we are tempted to be content.

Manual training, now generally and properly regarded as an indispensable part of early education, is surer to be acquired by country children than by city children. School manual training in the country may be no better than in town; yet country boys and girls have an advantage in this branch, since their activity outside of school affords manual instruction of the most useful kind because practical. In cities artisans of all sorts are at every one's beck and call to do all needed things, an unfortunate facility which city parents ought to lament on behalf of their children, who thus lose educational privileges they can never make up.

In city as in country homes all ordinary repairs about the premises, as of clothing, woodwork, furniture, locks, clocks, machines and gear of all sorts, should be done by the young people of the household. All girls and boys should know how to sharpen scissors, knives and tools. Common painting should be their care. A great deal of

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the less difficult making, as of ordinary clothing, furniture and tools, should be required of them. Every boy and every girl as well ought to be proficient in harnessing, unharnessing, saddling and unsaddling horses, in the proper hitching up and driving of teams, in managing nervous animals. A country boy should not be permitted to vote till he has successfully broken a colt or two. Youth of both sexes should know how to swim and to row, also the elements of garment mending, of cooking, of first aid to the injured, and of nursing the sick.

The great recommendation of these various accomplishments is not their convenience, though they eminently possess that, but their educative power. They are mental, and never merely manual. They form mind, morality, sense and soul, as truly as book studies; in fact, much more effectively than most book studies. They are the more valuable for being concrete, nearer to real life, serving material ends. In and through them mind is articulated with outer reality in a natural way. That school practice

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which most completely utilizes for educational purposes the necessary ongoings of our life, with least necessity for artificial school appliances, is, so far forth, the best. It is not to our credit as school people that we make and let patrons and parents make so little of home manual training.

Lest this large reference to manual training mislead, I hasten to add that the school I have in mind is, after all, the old stock and standard public school of America, one of our nation's royal glories. May it continue forever, a trunk current of spiritual and civic influence, basal to all that is best in our social body! I am in favor of agricultural and trade schools for all pupils desiring them when advanced enough to choose callings with some wisdom, provided such schools are so taken on as not to spoil the unity or spirit of the system. Let not education for vocations become a craze. We do not wish to supplant our present public school system, but only to diversify and adapt it.

Sentiments uttered by Dr. A. S. Draper,

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if correctly reported, seem to me open to criticism. Dr. Draper is right in alleging "lack of sufficient articulation between the educational and the industrial systems of the country," but in error, I think, in saying that "our elementary schools train for no industrial employments." They in fact lay the basis for all employments. Reading, writing, and ciphering are such basis. Dr. Draper must admit this. True, our common schooling leads to no particular calling. It is general and liberal, and so may it forever remain. We may be forced to devote fewer grades to the foundation work, perhaps encouraging youth who think they must specialize thus early to enter vocational schools or courses—agriculture or some mechanic art—so early as the end of the sixth grade. But these schools as well as the nature, manual training and domestic art studies of the earlier grades, should be germane to the system, not divisive, not extrinsic; they should fadge on to what has preceded and, in a way, to the parallel work of the pupils who do not thus specialize, so

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that, at the end as at the beginning, the pupil may justly feel that he is at work perfecting himself for the service of his kind. Manhood, citizenship, sociality—these are, after all, more vital than outfit for special calling. We can't afford to let this high and splendid ideal be trenched upon or overshadowed by sense of vocation. Craftwise, society is unhappily divided already. Too many a man is for his set, his guild, his trade. Recipients of public education must stand for breadth, public spirit, humanity.

In arguing, very ably, for his two classes of industrial schools, "factory schools" to teach work as part of an organization, and "trade schools" to train mechanics for independent work, Dr. Draper says: "These schools are not primarily to quicken mentality." With all deference, this seems to me shocking pedagogy. Vocational training, to have any fit place in public schools, ought to be "primarily" a quickener of pupils' mentality. In fact this quality may well be made the criterion in arranging any vocational course of study. So much, at

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least, of the "liberal" idea ought by all means to be retained. Strip your trade school of this, make your classes mere gangs of apprentices thinking of naught but the wages they are to earn, and, mark my word, your school will be as hard to keep filled with pupils as the least popular public schools now.

What we desire, then, is not a substitute for the good old common school, but only the old thing in up-to-date form; different gifts with the same spirit; improved methods, enriched courses, relatively more study of things and of nature as compared with mere books. From the beginning of the seventh grade you may introduce vocational specialties, preferably through separate schools. I urge circumspection even in this, believing that it will be found best in the main to postpone specializing to the high school period when, all agree, it may be given fairly free rein—trade high schools in town—agricultural high schools out on the land. But let the system in every stage, phase, and breath of it be one, unitary, self-



**Boys' Corn Club Exhibit, Blackstone, Va.
Tomato Club Demonstration, Bookhaven, Miss., July 30, 1911.**

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consistent, a public and general affair, broad and liberal in spirit rather than technical, narrow, divisive. This condition is not difficult to fulfill. You can teach blacksmithing with pupils' mentality ever in view, as you can teach arithmetic with a purely huckstering aim.

Nature, the central object of attention in modern schooling, city pupils can approach only with travel and expense, but it lies in all its departments open and ready for inspection under the eyes of country pupils, without money and without price. Country people forever have before them our adorable Mother Earth, with her infinite and ever shifting species of matchless loveliness—surfeits of eye-beauty in landscape, waterfall, frost-play, lightning, sunshine, sky and rainbow; surfeits of ear beauty in the wind, in the rush of brooks and rivers, in the thunder's diapason, and in the choruses of inimitable bird-music waking them morning by morning. All these influences are esthetic. and they are moral as well, which is one great reason why country folk

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average to be better behaved than city folk.

The sons and daughters of the country are always practicing consciously or unconsciously the liturgy set forth in Emily Dickinson's lines, entitled :

"A Service of Song.

"Some keep the Sabbath going to church ;

I keep it staying at home,
With a bobolink for a chorister
And an orchard for a dome.

Some keep the Sabbath in surplice ;

I just wear my wings,
And instead of tolling the bell for church
Our little sexton sings.

God preaches—a noted clergyman—
And the sermon is never long.

So instead of going to heaven at last,
I'm going all along."

How desperately much of that bucolic glory habitants of great cities miss—God's sky at best in retail pieces, often never at all visible for days; the sun eclipsed behind clouds of black smoke; never a sunrise or a sunset; never a whole rainbow, only choppy bits of one now and then, half seen, dingy and ashamed, athwart tall chimneys and sky-scraping business blocks.

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Often as I walk the streets of a great city
do I recall Matthew Arnold's verse:

"Who can see the green earth any more
As she was by the sources of time?
Who imagines her fields as they lay
In the sunshine, unworn by the plow?
Who thinks as they thought,
The tribes who then roamed on her breast,
Her vigorous, primitive sons?
This tract which the river of Time
Now flows through with us, is the plain.
Gone is the calm of its earlier shore.
Bordered by cities and hoarse
With a thousand cries is its stream.
And we on its breast, our minds
Are confused as the cries which we hear,
Changing and short as the sights which we see."

There must be in our land multitudes of children, if not of men and women, who have never in all their lives seen a natural forest, meadow, grass-plat, mountain, or waterfall; never heard "the wild sough of the sea," or even the Great Lakes' feeble imitation thereof; never listened to one of those bird oratorios which each summer morning turn every country side in the world into a portico of heaven. To most denizens of cities these precious, unique,

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original sources of cultivation are seven-sealed books. Cities must put up with opening to their children the best secondary sources. God's works failing, they let men's come in—the splendid imitations or analogies of God's, in music, architecture, painting, sculpture and literature. If we are doomed to miss grace itself, absolute grace, let us have for ourselves and our children the best possible means of grace.

The crowning advantage of country schooling is this nearness of nature, this openness to nature. Before children enter school they are made familiar with a thousand aspects of valuable truth, which city children learn about only with the most painful difficulty if ever. Those who have not attended to the matter will be surprised when they reflect how hard city children find it to get at nature face to face. Different out upon the country side, where boys and girls lay the foundations of knowledge in botany, zoology, geology, geography and astronomy before school days begin. This accounts for the well-known phenomenon

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of country youth when sent to advanced schools or to colleges shooting ahead of their city mates from almost the first day, and maintaining their lead to the end. Part cause of this is better health, which is another great asset in favor of country children, but the effect is also due to the fact that in important particulars the mental education of such children in the country, their intellectual training, began earlier. Teachers could presuppose more and were less under the necessity of extensive explanations.

Our great problem over the country school is how to avail ourselves of the immense advantages thus cursorily reviewed—health, school morale, democratic spirit, manual training at home, and free access to nature, working in pupils esthetically, morally and mentally. How can we successfully utilize these gilt-edged opportunities?

Carry through consolidation.

Respect and reverence for rural life and affairs and the most ample references

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thereto should pervade all school texts and collateral books—readers, spellers, arithmetics, grammars and geographies. All literature for youth and not nature study volumes alone, should breathe outdoor air instead of stuffy fumes from offices and parlors. We wish no special textbooks for country children, but change—not so much in matter as in tone and spirit—in books for all pupils in town as well as out. An “agricultural reader,” telling of corn rows, plows and cattle, would be as great an abomination as a “factory arithmetic” with weavers’ spinners’ and machinists’ computations given as examples. Away with all such class devices. What is urged is that school texts and side readings more largely involving nature and making fewer references to the thick and artificial life of cities, while specially advantageous to country pupils, would be an improvement for city pupils as well, an out and out pedagogical advance for all.

We need the same blessings for which schools everywhere are waiting. Better

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schoolhouses and costlier apparatus are desirable. In common with other teachers, only more justly and louder than most of them, we appeal for higher wages. Then, when adequately remunerated, we agree to change our positions less frequently, ourselves insisting on that permanency which we know is so much to be desired. Our game ought to be winnable by making safe hits without running bases.

While there are some advantages in the fact that so large a proportion of our teachers are young, this meaning on their part faith in things and in the future, without which good teaching is not possible—yet we should like encouragement in the way of salaries and of public esteem making it worth our while to grow old in our profession.

But good school literature, proper school-house facilities, high pay and permanency, even consolidation, important as they certainly are, are not exactly central in our problem and might all be present without bringing the triumph we crave. The chief,

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most crying need of our country work is consecrated school men and women, baptized with the Holy Ghost and with fire, of consummate ability, health, morale and education, of course, and awake to the rich chances offered them in high-class school population and in helpful home influences, but, above all, appreciating and able through perfect training and practice to use and make their pupils use the stores of nature's laboratory around them.

As tributary to this I plead for reform in the country institute. It is better than no instrumentality of the kind at all, but can be made vastly more improving than it is. A terrible sameness usually marks the sessions from year to year, the identical sort of matter, topics in substance repeated over and over, teachers bored and hating to attend.

This defect is largely due to poverty. Much may be hoped from the movement to band counties together, perhaps changing session-place yearly, and joining treasuries to secure the best institute talent.

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Fewer and shorter sessions a day would be another advantage. The teachers in attendance grow weary even of excellent inspirations and carry less nutriment away than they would under a system allowing rumination along with grazing.

But with the right sort of institute leaders we shall go away beyond all this in reform, making at least half the work at a session field and laboratory practice in botany, zoology, geology, astronomy and the various other forms of agriculture and nature study. Discard books, maps and blackboards the while. Out to field, pasture, wood, hillside, quarry and stream! Look up to sun, sky and cloud. Here are "the Worlds, Life and Nature, God's dread Sabaoth." Here is what the great reformer, John Wessel, used to call God's unabridged revelation, better than all books or other derivative knowledge, the source of science, art, literature, morality and wisdom.

The work just sketched is indeed a crusade. Our weapons are not swords or cannon, but ideals and incentives. Remember-

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ing this difference, we take up Henry V's
call to his soldiers before Harfleur:

"Once more unto the breach, dear friends, once more :

. . . The game's afoot :

Follow your spirit ; and upon this charge

Cry 'God for Harry, England, and Saint George!' "



THOMAS WILLIAM LAWSON, Esq.,
Financier, Writer, Public Speaker.

CHAPTER XIII

PROMOTERS AND PROMOTING

IN our day, so fine has grown the individualization of men's tasks, promoting has become a profession no less than engineering or journalism. Like the poor, the promoter is ever with us; his presence is among the most familiar of facts.

Exactly what he does, however, the precise sort of activity in which he engages to make him a promoter, is less well known. It will be worth while to describe the creature, and if we can keep him quiet long enough before our kodak, to photograph him, that we may see what he is like, and what his habits are.

Quite generally speaking, the promoter is the man who, acting in his own interest and not in the employ of another, finds out new ways or new fields for the probably profitable use of capital, and then gets people of means effectively interested in these promising chances.

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But you would be so far forth a promoter if you did but one of these things. Lesseps was a promoter in putting through the Suez Canal, although the certainty of huge profit from such a canal was no new thought of his, but the commonplace observation of 6,000 generations. On the other hand, though the promoter need not be and usually is not an inventor in the technical sense, like Eli Whitney or Tesla, his most important office often lies in the discovery of opportunity rather than in the directing of financial attention to the opportunity. That steel would supplant wood and iron in a million uses, and do this permanently; that coal oil must be the common people's illuminant for years and years in every civilized country; that judicious combination, taking the place of competition, immensely cheapens production; and that price control in a commodity was possible without dominating the entire output, were "promotory" insights of the first order.

Having ascertained how new money can probably be made and having created and

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organized financial interest in his project on the part of wealth owners willing to invest, the promoter also, as a rule, performs the various drudgery required to unite these investors and put them in possession and control of the proposition waiting to be exploited. If a new railway is proposed, he institutes the corporation, negotiates for the right of way, and performs all the other initial work necessary before the corporation can take over and begin utilizing the property. If a mining scheme is in view, he buys options on the land needing to be controlled. If the project involves or consists in the merging of independent industries or plants under one management, he secures present owners' agreements to enter the "combine" or sell thereto on such and such conditions. Thus the outlines of the promoter's trade begin to become clear.

The promoter is the intermediary between capital and new investment chances, created or discovered by him. He may actually make some new invention valuable for industry and drum up financial interest

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therein. Edison has not, I believe, prospectussed any of his inventions with a view to placing them upon the market; but it is conceivable that he might have done so. Oftener promotorship consists in inventing, or at any rate evolving for the market, improved methods of conducting business, as new forms of advertising or of bookkeeping, new ways of dealing with help or material, or of getting goods to customers; in almost any one of which lines novelties might be introduced so momentous as to render a business practically a new thing. The getting up of a successful trust would illustrate, besides much else, this sort of promoting. Wide new applications of inventions afford fields for promotion efforts, as when the gas engine principle is availed of to propel road cars. A patent commonly finds its way into use only as some promoter takes hold of it. The extension of old industry to new fields is usually promoters' work, as the building of cotton mills in South Carolina and Georgia, the starting of iron and steel manufactories in Alabama

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and Colorado. The putting of materials to new uses, as the substitution of oleomargarine for butter and of cotton oil for olive oil is frequently a form of promotion; and so is the opening, for any product, of new markets within the country or beyond the sea.

In every such case it is the promoter who espies the chance for gain, patiently calculates its possibilities, describes these so that others can see them as well as he; gets a "cinch" on them by the purchase of land options or other conditional promises; and then proceeds to enlist the needed money support, to organize this into a corporation, and to set the corporation on its feet working the bonanza.

It will render still more definite our idea of what the promoter is to notice also what he is not. Promoters often join together in firms as lawyers and engineers do. The benefits arising from such union are in many cases great and patent. But, however influential and advantageous the firm may

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in any case be, the promoter is seldom lost in his firm.

Again, as already remarked, the promoter may or may not be an inventor; and if he is an inventor, it is not in his character as an inventor that he acts as a promoter. Most commonly the man who markets an invention is not the inventor himself, but a professional promoter who may know only the general principles which the invention involves.

In like manner the promoter may not be an expert at the business he is seeking to launch. If he happens to be, all the better, probably; yet many of the most successful promoters have become such without expert knowledge of their own, depending for this upon engineers and other trained agents whose skill and services they could command for money.

The promoter as such is not and cannot be any one's agent. He acts on his own hook. Himself is the interested party to all he does as promoter. Till launched, his scheme is his and his alone. Agents and em-

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ployes, armies of them, may work for the promoter, many of them knowing details and depths of his undertaking better than he does, making him, it may be, very dependent on them. None the less, both in law and in customary speech, the party fundamentally interested is the promoter, not any one or ones among his working staff or any of these combined. The law is very insistent on this point, always singling out some one man or firm as the responsible promoter of any novel enterprise, to reap the profit of it if such emerges, or to bear the blame if it fails.*

The underwriter or group of underwriters advancing cash for the proposed undertaking and expecting recoupment by selling the new corporation's securities, is another entity never to be confused with the promoter. Underwriting is usually indispensable to a conversion of any magnitude. In many a deal the underwriters are far the most prominent factors, their profits fabulous and their names heard and published

* Alger, "The Law of Promoters", etc.

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though the promoter's remains unknown. Still, their office and even their service is wholly secondary; and they would never have been called in or thought of had not the promoter pioneered the way and made the dry bones live.

The view is nearly as common as it is erroneous, that promoting is inseparably connected with the trusts, as if promoters had never existed before trusts came to be. This is an entire mistake, as pointed out in great detail by Mr. W. G. Langworthy Taylor in the *Journal of Political Economy* for June, 1904.

Oakes Ames was a promoter, if ever there was one. Commodore Vanderbilt was a promoter. Our earlier railways and railway combinations no less than our more recent colossal railway systems, were born of promoters' efforts. The years after 1870, before any trust had appeared, bristled with promoters' schemes—in Europe as in America—the storm being central in Austria and Germany, where a good part of the billion-dollar French war indemnity fund sought

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investment. New railways were built, banks started, mines and furnaces opened, and factories erected. But in each case, or at least as a rule, the project was wholly individual, involving new organization, large — often fraudulent — capitalization, fake dividends, and the other features which American experience has made so familiar, but not embracing any combination of plants or of corporations. It is safe to say that the proportion of promoting to total business was as great in Germany and Austria, 1870-75—no trusts yet existing—as in the United States, 1899-1903—the golden age of trusts—and that it was far more reckless and disastrous in those countries than it has been in our own country during the trust years just past.

It is now in order to raise the inquiry whether the promoter, whose portrait we have tried to outline, is a producer or a parasite, a boon or a burden. Does he contribute to the social pile or simply help pull it down after we of the sweaty brows and the horny hands have heaped it up? Are not dead

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promoters the only good kind, as General Sherman said of Indians? Is the promoter a worthy member of the body politic or a grafter? Would his annihilation be a benediction, to be hailed with hallelujahs as making the majority of us better off, or a calamity tending to impoverishment?

In the answer to this question will lie that to the kindred one, whether the promoter function is destined to be permanent in industry; for, if it is a healthy force, it will continue; while if its net tendency is disadvantageous, we shall probably find some means of getting rid of it and administering all industry on some other plan. I am going to face those questions and answer them the best I can. Meantime a few remarks which may serve to pave the way.

Current rage against promoters is, in great measure, simply part and parcel of the popular hostility felt against all the wealthy. This hatred I deem the most dangerous sign of our times. If the mob alone felt it, this antipathy would be less appalling; but it has sympathy and support

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in all classes, even among the rich themselves. Hardly a newspaper in the land but frequently gives it voice. Pulpits are equally intemperate.

The pity is that this gnashing of teeth goes on against the rich, as such, without the least discrimination between good and good-for-nothing. We howl down alike the helpful rich and the harmful, the industrious and the lazy, the thrifty and the spend-thrifty, those making life easier for all and those making it harder.

When distinction is made, it nearly always favors the idle rich, especially if they are generous, against the energetic and creative rich. Mr. Carnegie was thought little of till he retired and began founding libraries. This zeal of his I commend; but the man's main benefactions to the public lay, and still lie, in the business he built up. Wealth must be created before it can be given away.

If you are well-to-do you are lashed and pilloried and your name cast out as evil though no breath of fraud attaches to your

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doings, and your whole life is one of ardent philanthropy. I have heard it said soberly, by educated people not given to folly in most things, that an honest millionaire never existed and never can exist, on the alleged ground that honesty and so great wealth were contradictory opposites. What wonder that less well-informed men believe this insanity and preach it like crusaders.

The promoter is supposed to get rich; he is, therefore, accursed like others classed as rich. He is "in with" Wall Street, he has helped launch trusts. Away with such a fellow from the earth; it is not fit that he should live.

Promoters' unpopularity at the present time is largely due to the fact that promoting is identified in the public mind with the operation of mammoth corporations and trusts, all whose uncanny doings are construed as so many reproaches to promoters. When corporate property is over-capitalized, when stocks are watered, when dividends are wrongfully paid or wrongfully passed, when small stockholders are frozen

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out by processes calculated to increase the plant's value yet at the very same time cheapen it to nothing for the favored few; or when men suppose that any of these evils are proceeding, the promoter is everyone's favorite rascal, people's speech being all to the effect that if he could be placed on the mortuary list all sorts of felicity would be assured the rest of us.

Enlarging capitalization, stock-watering, and passing dividends to the discouragement of impecunious holders of stock, are all, at times, legitimate and necessary; but, alike when they are right and when they are wrong, they are the deeds of the corporation, not of any promoter.

No doubt a promoter may do much to shape the course of a corporation by him created. He may even be a member and as such be still further instrumental. In such cases there may be ground for censuring him, with others, for the corporation's misdeeds. After all this is said, however, the evils complained of are in general not the

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promoter's work and he should not be cursed on account of them.

Beyond all doubt, though, there are culpable and criminal promoters who deserve all the maledictions they get. Only, we ought not to reprobate the whole flock for the misdeeds of a few black sheep.

An unscrupulous promoter may proceed from the very first on a basis of lies, exploiting the gullibility of the ignorant public with all the guilt of a bunco-steerer or any confidence man. His prospectus paints up Sahara to be a flower garden. The mine to be opened is in the same county with a bonanza. Our well is within gunshot of a world-famous gusher. Some "Professor" testifies to a belief that the same strata, only probably far richer, pass under our land. One man near our opening, who began last year as a grubstaker, is now a millionaire. Another has his cabin literally full of ore-sacks awaiting transportation to the smelter; experts think his pile worth at least \$500,000. These and ever so many others have got rich quick; why should not you? Stock

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in the new company is selling fast; but, as we wish to favor you, a block or two will be specially reserved for you till early next week. If you cannot possibly raise the money meantime by mortgaging your home, pray let us know at once, as so many are walking the floor to get your chance.

The ease with which money can be raised on such representations would be comical if it were not tragical, and tragical if it were not comical. "A minister or a physician has a few thousands laid by, a woman has either saved or inherited a small amount, a workman or a farmer has managed to scrape together something for a rainy day. Such people are found by the thousands in every part of the country. From their accumulations they draw a small rate of return, often so small that they are constrained to add it to the principal, and do not venture to apply it to expenditure. Four or five per cent clear gain is about all that can be expected. Their lives are hard, monotonous and barren. Before their eyes is constantly flaunted the luxurious extravagance of the wealthy,

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leisure class. To such people the prospectus of a new enterprise is wonderfully attractive. In exchange for a few thousands it offers them a fortune. The offer dazzles them. Their desires benumb their judgment. The risk of the undertaking is forgotten. Few of those who put their money into a speculative scheme enter it with the thought of risk. The calm balancing of chances is the exercise of a superior order of mind. The speculator does not buy a chance, he buys what he thinks is a fortune. He has had a vision of a vein of ore or a great reservoir of oil. He has seen a populous town arise around the factory in which he has invested. He has forsaken the difficult paths of reason for the flowery fields of imagination and conjecture.”* In this way many millions yearly pass from the pockets of the poor into the tills of unscrupulous promoters.

In another class of cases the fraud worked by promoters is less complete. The promoter knows that he is offering a valuable

* E. S. Meade : “Trust Finance,” 136.

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opportunity, and is justified in so representing; but he deliberately takes advantage of this fact to market a scandalous overcapitalization, in consequence of which, after running gaily a little while, the enterprise must fail entirely or else be reorganized by bondholders, stockholders losing all. Such disasters were common in Austria and Germany after 1870. A plant costing, say, \$25,000, would be got in hand for \$125,000, and then capitalized by a stock company for two or three millions. For a time demand and prices were artificially boomed and high dividends paid. Then came depression, the passing of dividends after dividends, stock at zero, and crash.*

"On May 8 and 9, 1873, the Vienna Bourse witnessed a reign of terror. There were scenes as tumultuous as those of a revolution. The raging passion of the unfortunates beggared description. The keynote of those days was the rapid, headlong

* *Glagau*: "Börsen-und Gründungs-Schwindel in Deutschland," 114.

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depreciation of an overwhelming majority of the securities listed. Business in the Exchange completely stopped. Chaos reigned. Despair took possession of the speculators. On the day of the great crash many of the curbstone brokers seized the highly respectable 'closet' bankers by the throat and shrieked with dying despair for the return of their all, whereof the promoters had robbed them. Others the sense of their horrible ruin bereft of reason and they sought in suicide an end of their misery."* The years following the crisis of 1873 saw a perfect avalanche of suicides.†

In a third class of cases promoters have made careful provision for the survival of the enterprise and for returns upon its preferred stock, but have been guilty of criminal, or at least highly reprehensible negligence touching the fate of the common stock, subscriptions for which were nevertheless zealously solicited, in fact had

* Wirth: "Handelskrisen," 520.

† Taylor, in the article named above, 395. He refers for the statement to Neumann-Spallart: "Uebersichten der Welt-wirthechaft," vol. iii, 56.

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to be obtained in order to the success of the flotation. Some recent instances of trust financing in the United States seem to me to betray literal malice aforethought toward common stock purchasers—the deliberate, cold-blooded purpose to make them stand and deliver.*

It should be added forthwith that promoters hardly ever perpetrate these nefarious designs alone. They are aided by underwriters equally guilty with themselves, in cases more guilty, occupying positions as bankers which enable them to beguile the unreflecting public as promoters could not. For those losses upon the stock of promoted concerns, of which the American public has heard so much during the last years, promoters have been much less responsible than underwriters. No banker has the right to enlist in the underwriting of a scheme, lending to it the sanction of his name, until he has caused it to be thoroughly investigated, satisfying his honest

* Meade, 346.

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judgment that it is, at the very least, no swindle.

Reckless, riotous over-capitalization by famous promoters and underwriters in a few notorious cases aired since 1900 has done more than all other causes in America to smirch the whole business of promoting, to make people feel that the only good promoter is the dead one.

T. W. Lawson, in *Everybody's Magazine* for August, 1904, declares that the Amalgamated Copper Company has "been responsible for more hell than any other trust or financial thing since the world began." Its 1,550,000 shares, par \$100, averaged to sell, he says, at \$115, *i. e.*, at \$15 apiece above par. In 1903 the price had declined to \$33. On the other hand, a good clear case of legitimate promoting is that of Coppers, related by Lawson in Chapter VIII of "Frenzied Finance."

Mr. E. S. Meade (p. 375) has shown that this frenzied finance of over-capitalization might have been prevented by proper national legislation, forbidding any inter-

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state corporation to pay in dividends more than, say, a fourth or a third of its profits, until a certain goodly reserve had been piled up; in other words, compelling more care for stability and less for immediate profits. Such a law would force promoters to act more soberly, discourage over-capitalization, keep rickety propositions off the market, and render new enterprises from the first investors' instead of speculators' affairs. It would make promoting less giddy, safer, and more popular, and it would deliver the promoter from a great part of the odium under which he now partly rests and partly squirms.

Besides reducing the frenzy of high finance, a United States law insisting that each new corporation doing business across state lines begin by accumulating a goodly reserve without regard to its early dividends, would produce a number of other most benign results. It would: 1. Drive speculative, as contrasted with investing, promoters and underwriters out of the business. 2. Decrease mere gambling specula-

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tion and adventures on margins. 3. Assuage the unfortunate public hostility toward large corporations and trusts. 4. Multiply the number and lower the price of safe investments, bringing such within the reach of a greater number of citizens. 5. Increase the rate of return on moneys safely invested, producing among other benign results, a lowering of insurance rates and a rise in those paid by institutions for savings*

Coming back at last to the question whether the promoter is a tare in the industrial field, to be rooted up and cast into the fire, or a useful plant to be cherished and cultivated, we find the answer to a considerable extent anticipated by the discussion which has preceded.

There are corrupt promoters who ought to be in prison, and there are valuable promoters some of whose doings will not bear scrutiny in details. The essential function of promoting is, however, a valid, important, vital, and, in modern industry, indispensable one, which the majority of

* Meade, 358.

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promoters probably endeavor to exercise in good faith, with no greater selfishness or rapacity than characterizes business men generally. The criminal promoter ought to be imprisoned and the purely speculative promoter ought to be either won or driven from speculative to sober methods; while the honest and sane promoter, being an invaluable agent of civilization, should be encouraged to proceed with his excellent work, lacking which the business world could make no progress even if it managed to keep going.

On every hand exist the most promising chances for the creation of new wealth. Waterfalls wait to be harnessed. The electric railway is yet in the earliest infancy of its development. All over our country it will swell the size of cities and make passage between them a hundred-fold commoner. It will extend to suburbs and far country parts the essential advantages of city life. Infinite new lines of standard railway will be required. Saving in all sorts of business enterprises will be effected.

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Shipbuilding and ocean carrying will again be great American industries. Agriculture will be revolutionized and made to take on generally the scientific character it has here and there begun to assume. Innumerable new inventions and discoveries having industrial value may be confidently looked for.

The mining resources of the country are as naught to what they are destined to become. With all our grubstaking, prospecting, and boring, we know almost nothing of the wealth the Rocky Mountains conceal. No X-rays yet devised are able to telltale those measureless depths. I venture to believe that all the valuable metals exist there, within reachable distance, in amounts beyond our most liberal calculations or even our wildest dreams.

I used to be among those who thought that the earth's gold yield was approaching exhaustion. The Rand, Dawson, Nome, and the unexpected prolificacy of Colorado and California mines have taught us the mistakenness of that view, which, it now seems to me, we were foolish ever to have

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maintained even without these revelations. No good reason has, to my knowledge, been advanced for doubting that the unexplored mountains of Siberia, the Himalayas, Africa, and South and Central America may ultimately produce gold as copiously as Alaska is doing.

Leonard Courtney, in an article not long since, expressed, in effect, regret that so much capital and labor are used in mining gold. His thought seems fallacious in ignoring the fact that prices are steadier the greater the world's reservoir of fundamental money is, including, of course, both coin reserves and coinable bullion. Gold mining is not, therefore, for the world's wealth, any more than for that of the thrifty miner, a losing business.*

It is of consequence for all, and most vitally for the common man and the poor, that these chances for new wealth-making should be found out and developed. Our

* Probably the oldest notice of mining in all literature is the eloquent passage in the book of Job: "Surely there is a vein for the silver and a place for the gold where they fine it."—Job 28:1.

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country is not too rich, but far too poor. All increase of wealth is a general and public blessing. It is this, into whosoever hands the new wealth falls, since those who get the title to, and become the owners of new wealth cannot take a single step toward the utilization of it without sharing it with the rest of us.

I do not say that it makes no difference how the titles to the wealth of a community are distributed, that a country with innumerable millionaires will show as high a level of general welfare as one equally wealthy whose wealth is more widely scattered. Other things being equal, it is, no doubt, best that a nation's resources should be owned by very many and not by very few. But I do maintain and declare that, after all, mankind's main economic interest is the piling up of wealth. If little wealth exists, most of us must be wretched; whereas, if wealth is immense, however it is owned, all but the idle will be benefited by it.

But the wealth chances referred to will not be turned to realities unless by pro-

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fessional promoters. Others are too busy or too apathetic to attend to them. Usually it takes the keen, the practiced eye, to ferret out the chance; and even if the chance is patent to all, facilities for realizing upon it—reputation for honesty, energy, sagacity, and attention to details, skill in using experts and in approaching and handling men, access to banking and railway authorities, and so on—belong only to such as have sedulously and laboriously acquired them. It is not by mere hap that business pioneering has fallen into promoters' hands. The craft is a necessary and benevolent product of business evolution.

Moreover the good promoter is in it to stay. His function is not a temporary one, but permanent. The need of him will not diminish, but grow ever greater as industry widens out its domain on the one hand and multiplies its details and its complexity on the other.

Well, then, granting that promoting, on the whole, is a public benefit, and that honest promoters will and ought to remain, ful-

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filling their wholesome and advantageous office, is there any hope that promoting of the vicious and criminal sort will in the course of time diminish?

Approaching a reply to this question, I remark that no time is, at present, in sight when it will do to be off our guard. We, the dear people, must reform our liking to be humbugged. So long as the world is full of fools, cheating of all sorts will abound and the conscienceless promoter will have his loot.

While we cannot too vehemently reprehend all dishonest promoting and underwriting, and while laws and public opinion should be used to the utmost toward suppressing those dark practices, people must, after all, in the last analysis depend on themselves, their own insight, common sense and sagacity to prevent being plucked by cormorants of these classes. After the lessons of past years, adults who lose by being drawn into unseaworthy schemes should be ashamed to plead the baby act.

Besides judicious legislation, besides the

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needful education of the investing public, teaching us to be more wary in the face of hoaxes, less gullible, less anxious to get something for nothing—I expect much from that slow but sure moral amelioration of men which I believe to be going on, assuaging not the quest of wealth, which, if the motive is good, is consonant with the highest virtue; but lessening the desire of wealth as an end, and rendering the cunning and the crafty less ready to take advantage. I do not speak of the millenium. In a day much nearer than that, it shall, to all but the very basest, seem better that a man act in all things with scrupulous justice, dealing to each his due, and helping to build high the pile of social and general wealth, than that he scheme to best his fellows at any cost, in order to live in a great house, ride in a private car, sail in a yacht, and rot when dead under an immense pile of marble.

CHAPTER XIV

TAXATION AND LAND

LATIFUNDIA *perdidere Italiam*, Pliny wrote. "Big farms ruined Italy." Will America perish in the same way? I have long been convinced that the break between land and people by the general prevalence of the Roman or feudal tenure has become a terrible evil, and that it operates much as Henry George describes, diminishing production, congesting wealth, and multiplying injustice, poverty and vice. An increasing number of able English and American writers share this view; and it is masterfully argued in the extraordinary Italian work, Achille Loria's "Analysis of Property under the Capitalist Regime," published at Turin in 1889.

To turn the golden stream of economic rent partly or mostly into the state's treasury, where it would relieve farmers and the general public of taxation in burdensome forms, seems to me extraordinarily desir-



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HON. HENRY GEORGE, JR.,
Member of Congress from the State of New York.

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able. I by no means concur in all the reasons which many assign for this; nor should I expect from it, even if carried to Henry George's length, more than half the benefits to society which he anticipates. Still, the proposition to lay the main tax on land impresses me as just, safe, good for farmers, accordant with the best canons of public finance. By taxing land proper, *i. e.*, mere *location* and *native* fertility (as contrasted with *created* fertility) you are in condition to lighten taxation on wealth and capital, the products of labor, thus encouraging industry.

But I, for my part, should deprecate an absolutely single tax system of any sort, the more if the one tax were upon land. When Professor Harris and Edward Atkinson, referring to the United States, and Mr. Richard Simon with reference to Great Britain, held forth that the economic land rent would not suffice for the national revenue, I was anxious to agree with them, though I could not. It occurred to me that, if they were right, we could beautifully

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remedy the evils of too big farms, land dearth and speculation, without entirely ceasing to draw public revenue from other sources than rent. I suppose, however, that, as a matter of fact, rent would pay all taxes and leave a vast sum remaining. Were the state to take it all, the fund would be greater than it could safely disburse, inducing subventions which could not but work detriment to the economic character of all sorts of people. On the other hand, should the state not take the surplus rent, the evils attaching to our land tenure, instead of being cured, would be simply more or less assuaged. I should, however, prefer this as far the lesser evil. To collect unnecessary revenue is, in finance, the unpardonable sin; and it would in the end work as ill socially as it would financially.

Whatever advantages of a purely social nature might attend sweeping simplicity in taxation, such a scheme would, as a measure of public finance, involve considerable difficulties. These may seem petty until reflected on, and might not at any rate prove

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decisive; but they are certainly of weight enough to deserve attentive consideration. It would not be strange should friends of the single tax not have studied it so closely in this relation as in its directly social bearing.

I make little of the objection suggested by Sir Charles Dilke in his "Problems of Greater Britain," referring to Newfoundland, that, in a country so sparsely settled, justly to levy and collect a land tax would cost more than the amount of the tax. The point is, however, worth mentioning in debate upon a revenue scheme for the United States.

Another consideration, speaking for a manifold as against a single tax, is the impossibility in either case of a fair assessment. A just levy is more easily attainable on land values than anywhere else, this being among the chief advantages of a land tax. But perfect equity is by no means to be had even here. No particular tax can be carried through save with injustice somewhere, weighting this man too heavily, the

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next too lightly. Now, it is clear on slight thought that any single tax system exaggerates every such unfairness to the utmost, while by settling taxes on many things you tend to offset losses with gains.

More serious still is it that a single tax system of any sort would greatly lack elasticity. To secure this quality, you must tax so many articles that surpluses may be put over against deficits between them, and some of the articles must be of such a nature that the burden upon them may in an emergency be suddenly increased.

No minister of finance will ever have the omniscience to make the revenue and expenditure sides of his yearly budget balance exactly. Income may fall short; it may be redundant. As it is visibly bad policy to plan for an assured surplus, he must each year be prepared to meet a deficit. Now, the most economical way to do this is by an instant increase of taxation on some commodity that will bear it. Any form of impost may be suddenly lowered, but few are those which can with safety be suddenly

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raised. A land tax or a house tax is specially ill fitted for this. Income taxes perform the service very neatly; and, as is well known, Great Britain has long resorted to them for this purpose. However, Mr. Goschen's budget of April, 1889, substituted for the usual increased levy on incomes a death or succession tax on estates of \$50,000 or more, which has thus far worked well. A tax on liquors has usually been considered the ideal "buffer"; yet even this served Mr. Gladstone ill, ousting him from office by its unpopularity. Obviously, none of the imposts mentioned would serve happily as the substantive tax; but these, or some of them, or others similar, are necessary as ancillary taxes, to render a system supple and safe.

It may be rejoined that this objection is valid only against those who wish the state to take no more rent than is necessary, but not against H. George, who was going to draw all rent into the public treasury, making a deficit impossible.

I reply that inelasticity will balk the single tax plan about equally whether all

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rent or only a part is assumed by the state. In neither case can you safely allow a great surplus to lie idle in the treasury. You must appropriate all of it for regular purposes, more or less legitimate. The greater your revenue over the necessary outlays, the less proper will be the objects to which you will apply it; still it must and will be applied. Now, the point is that in an emergency of deficit you will have to withdraw from some of these objects; and, whatever they are, trouble will result. To deprive the people of cheap bread would occasion no less rebellion than to dock wages in army or navy or the salaries of postal clerks.

Again, other taxes than a land tax are needed for regulative and disciplinary purposes. I do not refer primarily to taxation upon traffic in intoxicants, although there are very strong reasons for supposing this the best means of handling that gigantic evil. The ethical objection to it, that it makes the state partner in crime, I regard as wholly fanciful, deriving its entire force from the double sense of the word "license."

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It can be safely said that no modern state ever "licenses" the sale of liquor with the thought of furthering it as a good thing. A liquor tax is of the nature of those *amercements* anciently so common in English law, intended to repress acknowledged evils, which the state was not yet in condition to handle as crimes in the legal sense. Abolish the word "license" from this discussion, supplying liquor dealers duly "amerced" each with his "bill of amercement" instead of his "license," and the theory of liquor taxation would appear in its proper light.

Nor is this attribution of a punitive character to taxation in certain cases either new or strange. Wagner is by no means its author. From the dawn of Cameral Science, even in Adam Smith's Fifth Book and in Leroy-Beaulieu, where *laissez faire* is so pronounced, it has been recognized as imperative that taxation should keep in view the great ends of culture and civilization.

But society suffers from other licenses than those to sell liquor, from other monopolies than that of land; and nothing is easier

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than to reduce the power of any of these by taxation. It is a great error to suppose that such a burden could be shifted to the purchasers of the monopolized commodity. The paper upon "The Economic Law of Monopoly" presented at the session of the American Social Science Association in 1889, proved that prices under monopoly are fixed, not at all by competition, but according to the "law of the tolerance of the market." That is, they always tend toward the point of maximum gross profits, to which, should they go higher, they would inevitably be brought back by such decrease of sales as would cut down the aggregate income. Tax any line of goods already selling so, and the entire tax must come from the producer; no part of it can be extorted from consumers. The logic here is precisely the same as that which proves it impossible to make rent payers suffer from a tax on rent.

So clear is the chance to touch monopolies through taxation that some might pronounce such taxes no less worthy than a land tax to occupy the substantive place in a

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revenue system. I do not think so. In the case of any successful monopoly, a certain portion of the winnings is due to administrative skill and effort, and is not the gift of society. Land value, on the other hand, is purely the creature of social deed and toil.

Professor Patten shows how a monopoly tax may also be utilized for the immensely important purpose of steadying retail prices, but brevity forbids more than a mention of such a possibility in this place.

Lastly, it is an old maxim of political science that a constitutional government must be kept poor, dependent, unable to get money except by the deliberate act of its constituents. The doctrine has history behind it and human nature beneath. A republic is no safer in this matter than a monarchy. Let its ruling powers have access to resources which are not voted to them, item by item, after debate and reflection, and liberty will soon be but a name.

Now, by the operation of the single tax in the form desired by Mr. George, government is provided with the most ample reve-

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nues in a dangerously silent, imperceptible, and automatic manner. The system once launched, the state waxes rich, sleeping or waking, as do landlords in growing cities. Increased revenue comes without debate or observation. No budget is presented or discussed. No general appropriation bill is put forward to be argued pro and con. Public assessors, incessantly but noiselessly at work, ascertain and register each rise in land value, while collectors at once, without ado, drain the additional rent into the public till. Of course, the individuals who have this year to pay more rent than last are aware of the difference and may complain. But such voices, being isolated, would be without volume or unity, and hence without effect. In certain localities rents would be falling at the same time, no one knowing how much. There could be no common consciousness of drain. Even exact publication of the state's financial condition could not beget this—certainly not as it would do if every dollar received had to be voted by the representatives of the people in the form

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of a tax which men would feel. American financiering since our treasury surplus began is proof of this.

To sum up, desirable as it would be to fasten our chief tax upon land, we should not be beguiled by the seductive idea of simplicity into the exclusion of other kinds of impost, since that course would, among many things, (1) aggravate the wrong of all imperfect assessments, which are unavoidable, (2) produce a most inelastic revenue system, (3) cut us off from a much needed weapon for disciplining minatory and refractory businesses, and (4) gravely threaten free institutions.

CHAPTER XV

SOCIALISM AND THE FARMING INTEREST

IF I have any special qualification for discussing socialism it is that of sympathetic opposition. I was once as near being a disciple of Rodbertus as I could come without baptism into the church. I thought I saw in Rodbertian socialism, socialism scientifically wrought out and applied, a remedy for the most glaring of our social evils. In time and upon study, however, the system which had seemed to me so desirable grew to look quite otherwise, the difficulties connected with it assuming vaster and vaster proportions, until in my thought they towered above and outnumbered those necessarily bound up with the present order. I was thus converted to the opinion that society has greater hope of reform on the general basis of individualism than by flying to the unknown though



HON. VICTOR L. BERGER,
Member of Congress from the State of Wisconsin.

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inevitable ills accompanying a socialistic regime.

None the less I retain for the manner of thinking which so long engaged me a respect which most of its opponents do not have. I cannot condemn socialists so unqualifiedly as is commonly done. Not only are the majority of them true philanthropists at heart but their ideas and ideals are worthy the most careful thought. Indeed, one not versed in Marx's reasonings can hardly be called fit to discuss any leading social theme. I rejoice in socialistic study and agitation; vast net good must issue from it.

Few can help going far with the socialists in their indictment of present industry: Much wealth without merit; much poverty without demerit; cross purposes in production, inducing glut, scarcity, waste and injustice; idle wealth that might be supporting industry but is not; enforced idleness and poverty; fraud in trade; and the tyranny and menace of corporate power. These and such evils exist and they are

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grave. Usually socialists do not overmagnify them. If such distresses are curable, all wish to know how.

Most wise people, whatever their style of social thinking, sympathize with socialism in wishing the public power, when necessary, to extend more or less its economic function. Now and then, of course, some one still denounces as dangerous, *per se*, disregarding place, circumstance, and the state of the civil service, the municipal ownership of street railways. It is hard to see why this is more a peril than the owning of schools, or of water or gas works by cities. There is nothing alarming, either, in the proposal that government should purchase and work mines. Not another foot of mining land now owned by the government should ever be sold. Public ownership of mines is in continental Europe the regular thing, as is the public ownership of railways. All municipal functioning that involves money is dangerous unless the civil service is right. This condition given, the question how far the corporate people may

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engage in industry is simply, What is best?

If the question were merely whether or not it is desirable for government to possess and administer certain indispensable public utilities, it would not be worth discussion. The thoughtful people are few, however opposed to socialism, who do not believe that government will in time take over a great many of the productive agencies now in private hands. Government might go a long way in this without even an approach to socialism. Socialism would not be reached until all material instrumentalities for the production of wealth had passed into the state's hands, or at least so many of them that individual initiative in its present and historic form had ceased to have play.

Nor need anti-socialists have any radical quarrel with socialists over Fabianism. Call the Fabians socialists, if you will, they are socialists of a very innocuous stripe. The three great tenets of orthodox socialism—that economic conditions absolutely determine social, moral and political ones; that profits are always and inevitably iniquitous;

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and that, therefore, all productive property and occupations without exception ought to be in state hands—Fabianism denies. What is unfortunate in Fabianism is that it seems to look upon state economic activity as rather the normal order, to be departed from or not insisted on only when personal initiative is clearly better. I should urge just the reverse—that individualism ought to be the standing presumption, to be resolutely trenched on when it fails, provided public functioning is certain to do better, but always to be preserved and acted upon as the normal. I deem this difference in points of view rather important; but public ownership has not yet gone so far that a Fabianist policy and a rational individualism need at present clash.

Here at least, I fear, I for one must part company with socialism, that mode of thought in its orthodox form seeming to me to proceed upon presuppositions wholly unscientific.

One of these is the assumption that the estate of the human species on this earth

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without much difficulty, by a simple change of social order, be radically bettered—so that sin and misery shall in effect disappear. This I judge to be faith only and not reasoned conviction. In common with all healthy men I indulge an optimistic faith, but I cannot exalt it to the level of dogma or of scientific prediction. Its basis is primarily religious, though it derives more or less support also from the progress which humanity seems to have made in the past. Each of these grounds is worthy of recognition. The cheerful belief I venture to hold is therefore not to be ranked as mere credulity. It cannot, however, on the other hand, be accepted as a scientific premise. We hope for a city of God, to be established right here in this actual earth; but if you ask for a demonstration that it will come I can give you nothing of the kind, and no one can.

On the contrary, also, the scientific data all seem to point the other way. There is a sadly convincing deduction, familiar to students of social history, that whenever

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material betterment comes to the ignorant poor, as through a rise of wages or the cheapening of bread, it is speedily checked by increase in population. The principal consideration that forbade me to find in socialism a panacea was the insight that, granting to socialism as a purely economic resort all that is claimed for it, which was further than I could go; supposing socialism to bring to pass economically all that Rodbertus, Marx, or any other apostle ever claimed, the community would soon be again suffering from its old-fashioned ills through the irrational multiplication of the species. However great economic prosperity may come through socialism or otherwise, the sort of humanity we have had to deal with thus far, the only kind of man we know, will take impulse from such prosperity to multiply perniciously, to develop a submerged tenth, an ignorant and vicious proletariat, whose woes will be so great as again, and very soon, to lower the average weal well toward zero.

I am not forgetting what socialists say

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against this. Marx would have us believe that economic welfare inevitably begets intellectual and moral sanity. I could never see any proof of this. It is another of those bland and thoughtless assumptions with which socialist discussion reeks. Innumerable cases of physical plenty could be cited, taken from all the historic centuries and from the most diverse conditions of race, climate and society, which are not followed by mental or moral uplift. I instance the good-for-naught Anglo-Saxon men in the most prosperous parts of this country—without large families, rarely sick, able to command good wages if willing to work, yet forever in rags, without a cent's worth of property or credit; *e. g.*, Joe Beal, in Sam Walter Foss's poem, "He'd Had No Show."

"Joe Beal 'ud set upon a keg
Down to the groc'ry store, an' throw
One leg right over t'other leg
An' swear he'd never had no show.
'Oh, no,' said Joe,
'Hain't hed no show.'
Then shift his quid to t'other jaw,
An' chaw, an' chaw, an' chaw, an' chaw.

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"He said he got no start in life,
Didn't get no money from his dad,
The washin' took in by his wife
Earned all the funds he ever had.
'Oh, no,' said Joe,
'Hain't hed no show.'
An' then he'd look up at the clock,
An' talk, an' talk, an' talk, an' talk.

" 'I've waited twenty year—let's see—
Yes, twenty-four, an' never struck—
Altho' I've sot round patiently—
The fust tarnation streak of luck.'
'Oh, no,' said Joe,
'Hain't hed no show.'
Then stuck like mucilage to the spot,
An' sot, an' sot, an' sot, an' sot.

" 'I've come down regerler every day
For twenty year to Piper's store,
I've sot here in a patient way—
Say, hain't I, Piper?' —Piper swore.
'I tell ye, Joe,
Yer hain't no show;
Yer too dern patient.' Ther hull raft
Jest laffed, an' laffed, an' laffed, an' laffed."

If, therefore, we wish to go upon a basis of fact and not upon dreams, we ought not to expect from socialism, however triumphant, any permanent deliverance from the principal woes that are upon us.

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Permit me now to distinguish between two types of socialism, the scientific and the popular, for, to some extent, what I have still to say can be made more relevant by treating them apart.

Socialism of the reasoned sort, as worked out by Rodbertus and in part by Marx, is at first sight very attractive. It meets many objections on which the more popular doctrine has no word. Thus, it is anti-communistic, not proposing that all men's services shall be rewarded alike irrespective of ability and fidelity, but aiming to mete out rewards in an equitable manner. By the device of labor-time money, essaying to make costs and prices exactly agree, it proposes that any person shall command for a day's toil products costing the community precisely the amount of time and toil-units to which he has been subjected in the day's work. Not "to all men alike," but "to every man according as his work shall be." This system, patiently elaborated by Rodbertus, is so perfect and workable at many points that it tempts one to hail it as a real herald of

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the bliss for which we sigh. I have elsewhere analyzed this scheme, finding, to my regret, that in practice it must, after all, either utterly break down or else produce its little benefit at the cost of greater ills than it removes.

Much more interesting is everyday socialism, the type now disturbing modern politics by ominously gaining converts daily. I may dub it "loose socialism," "state socialism," or "the socialism of the man in the street." Increasing hosts of intelligent men and women who never heard of Rodbertus, impressed by the working of trusts, of the postoffice and of public ownership in this country and elsewhere, jump to the conclusion that the complete generalization of such ownership would usher in a millennium. Their cry is "Only substitute Uncle Sam for Uncle John Rockefeller, Uncle Pierpont Morgan and all such, and the thing is done." Rodbertus's careful planning for equity they ignore as superfluous labor.

I cannot help regarding such people as

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under a complete hallucination. There is much history to prove how enticing and ideal a plan may look when viewed in the block, yet fail hopelessly under the searching test of experience. Compare the expected with the actually realized, (a) in the freeing of the Spanish-American republics from Spain; (b) in the introduction of free trade in Great Britain, and (c) in the abolition of slavery in our South.

The best substitute for trial by fire is an analysis of fire and of the bodies which are consumed or purified thereby. Can we not, by a parallel process, analyzing the system and also the nature of the human subjects on whom it is proposed to try it, ascertain what the results would be were the state made employer of all and popular socialism put to the test? Let us attempt this.

Frankly, socialism, as popularly advocated, *i. e.*, general government ownership, would be likely to promote reform in a few not unimportant particulars. It would perhaps at points act more happily than any less drastic change.

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The abolition of business corporations would, of course, end gambling in domestic stocks; but there would still be Canadian, Mexican and European stocks and bonds, and also, for a long time, our own government bonds, which last would be likely to fluctuate under the proposed regime as never before. Produce gambling would also be left to flourish. In a word, the gambling which connects itself with speculation would be little affected by socialism of the rough and ready sort.

Under such socialism the evils of scarcity and glut might be mollified by the careful gathering of statistics telling supply and demand. It is to be remarked, however, that, owing to diversity of seasons and weather and to people's changing tastes and wants, the evils referred to can at best be only a little diminished, while what can be done in this way business enterprise is now rapidly bringing about.

But, some socialist will interpose, we are not going to stop with government ownership of productive agencies; distribution,

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too, down to details, is to be a government affair, so that no private person or body of them shall have anything to sell; no markets will exist, only government dispensing places; selling and buying there will be none, and, of course, no produce gambling.

This proposal, to have the public power control details of distribution as well as own all the agencies of production, is farther than popular socialism has got; but it may, and probably will, arrive there. Let us, therefore, sound this new sheet of water, seeing whether a ship of state could sail in it and not run aground.

You cannot wholly prevent private purchase and sale. Even by making it a crime you cannot. People will create or bring from abroad things their neighbors want, and sell them. More than this. Make foreign like domestic commerce a government affair, if you please. At some point in the distributing process, more in the gross or more in the detail, consumables—food, clothes, utensils, all things intended for men's use—will become individuals' prop-

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erty. The lump of sugar for my tea is mine, at least after it is dissolved in the tea. My boots are certainly wealth in fee simple after I begin wearing them. And so on.

Now, if your system is going to allow for any personal liberty whatever, the distribution of consumables will take place in the gross—a year's or a season's supply of flour, corn, hats, horses, toothbrushes, scouring sand, visiting cards, quinine, photographs of yourself, ribbons, spectacles, gum drops, and other supplies, whether necessities or luxuries; all, after you have drawn them from the state's magazine, will be yours in fee. Each citizen will thus possess in fee a certain considerable stock of goods. This being the case, inevitably, at times, citizen B may have a surplus of some things which the government cannot or will not supply and which citizen C may wish and be willing to pay for. In the aggregate such cases will be legion, and often so exigent that traffic will surely occur even in spite of police regulation. It is, therefore, idle to say that any form of socialism will wholly end trade,

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markets and speculation; through tyrannical socialism, amounting to slavery, might accomplish a good deal in that direction.

The proposed socialism would not prevent crises. Crops may fail or immense conflagrations or epidemics occur as now. Ups and downs in the value of money may also take place. Any improvement in these respects is as likely without socialism as with it. Strikes and lockouts will also still be possible. Friction between capital and labor is in no wise certain to be abolished by making the public the sole employer. The form of the boss system must continue under socialism. At present wage scales are rarely drawn up by the actual owners of properties. Agents, managers, superintendents do this. Such functionaries would still be required—prevailing socialism—and one of them and the workers under him might disagree upon wages as now. The general public, owning all things, would likely enough insist on high wages, but then as now, a special group of laborers may demand remuneration which cannot be con-

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ceded, giving rise to a strike on the one hand or a lockout on the other. The strife may then spread from establishment to establishment, enforced idleness, underproduction and want ensuing, as is so unfortunately the case at present. I cannot see how socialism is to assure any appreciable improvement in matters of this sort.

Hitches between supply and demand will be worst in agricultural labor and products, a fact rendering socialism specially ill-adapted to agricultural populations. Socialist writers seem not to consider this. All their reasoning seems based upon factory and urban conditions.

State socialists assume that their establishment of society would annul profits, interest and rent. It would not, unless private property of every kind and degree were done away with, and it is not proposed to go so far as that. The fee of consumable property, residences and their furniture, pleasure grounds, personal libraries, kits of tools, clothing and so on—the fee, in a word, of all property which is no longer capital

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but has been passed over to consumers for consumption purposes—the fee of all such property is to remain in private hands.

But as surely as this is so loaning and economic rent will to some extent continue. Savings banks will, of course, be owned by government, but is there to be no inducement for people to deposit in them, no rate per cent? And if, residence land or even houses being privately owned, the fashion shows favor for certain wards, streets or corners, I should like to know what power on earth could keep the phenomenon of rent from rising?

Profits, too, would stay. Suppose that by some art or device you or I can sell given products cheaper than the state mills, farms or fisheries can, are we to be put in jail for doing so? If not, we shall make profits. There would be many cases of this kind.

In the main, no doubt, profit-taking under that name will cease, but if industry is to go on strongly, the same or similar winnings must be permitted in the form of salaries. Supervising, organizing, inventive

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talent must be paid for and the remuneration must come from the people's industry. Your new system will perhaps prevent a few cases of extortionate profits, but supervisory agency will on the whole cost the people as much under it as under the present order, while at the same time being far less efficient.

I also pause when apostles of socialism urge that their system would secure work at fair wages for all at all times, putting an end to necessity for charity. A socialist government might, of course, artificially provide employment through woodyards, stone-breaking plants, etc., where men having no other jobs could earn small sums—a system of disguised charity. But present governments can do this as well as socialism could. Socialists do not mean this. They affirm that normal and lucrative employment will be always ready. How will socialism guarantee this unless it can, as we have seen it cannot, prevent scarcity, glut, strikes, lockouts, crop failures, floods, fires and epidemics?

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Frequently the occasion of a man's being out of work is not that there isn't any work, but that there is none of his exact sort, or none of this without search and travel, or that the wages or other conditions do not suit. I am wholly unable to see how general public ownership could much, if any, limit these possibilities of hitch.

As for charity, the occasions for it originate partly in misfortunes which are inevitable, utterly unpreventable by government or otherwise, and partly in men's laziness and unthrift. That these bad qualities are ineradicable in human nature I will not allege, but I cannot see what socialism could do to abate them. I believe that it would insufferably increase them.

To minify these criticisms, to make a system that shall actually improve on our present one, socialists should go back and try to amend the proposals which Rodbertus has made into workableness. His plan, if it could be executed, would, at many of the points touched upon, bring real remedy. Of up-to-date socialism this cannot be said.

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While socialism would have little if any power for good it would have vast power to inflict injury.

In my judgment the lax socialism of which I have been speaking would beget four appalling evils, any one of which would be a fate heading out more hydra-like with woes than the existing system itself.

1. It would inevitably degenerate into communism. The system, if set up, would, of course, be administered by its advocates and these, you notice, when not avowed communists, are people who lay greater stress on equality than on justice, minimizing distinctions in men's productive ability and making light of Rodbertus's painstaking effort to secure justice between individual producers.

This trend of everyday socialism toward communism is not wanton but natural. Study of Rodbertus convinces many socialists, as it has me, that socialism not involving communism would be to say the least very hard to administer. Not a few already say what, upon trial, everyone would echo:

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"A curse upon all this machinery and perspiration for differentiating the individual shares of product. Go to, we will divide equally. That is easier, and, for the majority the dividends so obtained are larger."

Men's insatiate rage for wealth on every hand stimulates this temper. Money hunger is by no means confined to those whom people denounce therefor.

2. It would file off and at length entirely annul the invaluable spur of individual initiative. That this result would come is obvious from the preceding. It is less easy to swing a pick than to wait for and draw one's annual "divvy." The miraculous richness of initiative, enterprise and daring hitherto witnessed in men's activities, mastering nature and bringing forth ever new devices for men's comfort and progress, would fall away along with the prompting furnished by necessity and individual opportunity. Philanthropy might be incentive enough to sustain work and invention if we could get it in necessary measure, but philanthropy is a quality not to be called

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into existence by mere notification. Loss of initiative would be fatal to progress. We could, indeed, no longer hold our own. With all their rapacity and crimes captains of industry are a colossal net good. Social weal requires that they be curbed, not that they be crushed.

3. It would annihilate the power of this nation to compete industrially or otherwise with leading nations. Benjamin Kidd rightly depicts how quickly a people which conducts its life non-competitively must drop behind such as continue under that cruel but effective goad. On the nature and amount of such loss people would differ. If it meant merely lessened wealth or prestige among the nations, not a few would contemplate it with some composure; but few certainly would confront composedly the likelihood of our becoming a vassal nation, or of our absorption by Great Britain or the German empire.

4. It would subject society to a species of mob rule at home. In what sense do we believe in democracy? Not in the Athenian

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sense that every man is fit for any office, or that men are equally capable to give advice on all questions; but in this sense: (1) that natural differences of ability are at any time sure to be found in any society; (2) that democratic society naturally selects for its various duties and functions those somehow specially fitted for these, and then follows such leaders; and (3) that the result thus attained, though usually far from perfect, is on the whole better than if leaders were made such in any other way.

Socialism does not ignore this principle, and Rodbertus's socialism makes reasonable provision for its successful application. But popular socialism does not do this. It plans for a leaderless nation. Its program would kill off able leadership and make the political boss God over all cursed forevermore. Great men will not work in harness nor submit to political call or political dismissal, which always involves more or less caprice.

This statement is not refuted by the fact that many political offices requiring high

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business and administrative ability are now well filled. All political official work is now carried on in an atmosphere of competition, with examples of competitive service visible all about. It, therefore, offers no hint of what would occur were competition clean gone forever.

I, for one, believe it democratic for the people's work to be well and economically done. This never occurs under multiple-headship such as popular socialism must involve.



HON. SAMUEL WALKER McCALL, A. B.,
Member of Congress from the State of Massachusetts.

CHAPTER XVI

PUBLIC SPIRIT

IN an old Jewish chronicle there is depicted a beautiful scene which suggests a deal of gospel for our day. The great prophet of Israel, Elijah's successor, lies upon his deathbed. King Joash bends over him, and, mindful of the eminent and unremitting service of the man, who will have no successor in this, cries out in agony that Israel's central hope, the main defense of the state, is departing, its standing army as it were—for the war chariot was in Israel now the chief arm of military strength—"My father, my father, the chariots of Israel and the horsemen thereof vanish in thy death! Our army is no more. We are a prey to our foes soon as thou, with thy wise counsels and thy patriotic heart, art gone."

Elisha was worthy of this tribute. Unlike Elijah, he was no monk. With him duty meant not meditation, still less moping,

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but life—earthly life, too—actively, practically lived. According to his creed, the perfection of walking with his Maker was usefully to walk with men. He had not immured himself in a cave in order to be at peace with his conscience. His goodness had shown itself rather in all sorts of acts useful to his fellowmen. According to the story, which is unquestionably a good analogue of the exact facts of Elisha's life, it was his joy, when need arose, to increase a widow's stock of provision. At his intercession a dear child given up for dead had been laid back living in its mother's arms. He had furnished food for one hungry company and rendered innocuous that of another when it had been poisoned.

Not alone kindness and charity to special individuals marked the temper of this religious hero, but still more an intense civic spirit, broadening out into philanthropy, a zeal for the welfare of men far and wide. A benign act at the request of the citizens of Jericho, purifying their water supply, began his prophetic career. Though not a

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fighting man, he took the field with the armies of his country, placing all his natural and all his prophetic skill at the service of kings and generals. Once when the forces faced the enemy but were dying of thirst he won the campaign by revealing copious supplies of water. In civil matters as well he was always ready with his aid. Prophet, he was often virtually prime minister. Imperfect, unrighteous as his country and its institutions were in his age, he would not desert or renounce them. Even amid siege, famine and death, Elisha remained by, content to fare—nay, determined to fare—no better than the rank and file of Israel.

The prophet also had an enthusiasm for humanity which for those times was veritably miraculous. It made him cosmopolitan in his feeling. He healed of a deadly disease the chief captain in the host of his nation's worst enemy, Syria, sending him back to his home and his sovereign whole and happy. Having captured a hostile force by special stratagem and not by superiority in war, he forbade that they should

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be smitten, but ordered them fed and set free to march back to their own camp. In return he was received with rare honor at the Syrian court, and consulted in reference to the high affairs of that foreign state.

From all this we see Elisha's ideal touching the attitude which a good man ought to hold toward public matters. A devotee of religion, specially called to teach the divine will, to promote righteousness in the land, he was interested in everything that went on in the state—if it was good, to promote it; if evil, to denounce it and put it down. He thought of his public spirit not as inimical to his religious experience or influence, but as the direct and most precious product of the Eternal Spirit manifesting itself in him.

Herein this distinguished old worthy beautifully anticipates Christianity. Both in his precepts and in his example Jesus enjoins men to make all human interests their care. We are to love our neighbors as ourselves, a spirit leading a man to do for others all the good he can, spending himself for

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his kind and dying for them if need is. Even to Cæsar we are to render what is his, never grudging. The disaffection toward human government which the church of the second and the third century betrayed, leading some to identify the Roman empire with Satan's kingdom, was not from but diametrically opposed to Jesus Christ's teaching.

The Apostle Paul knows this. He preaches that whoso resisteth the power—which then was the Roman power—resisteth the ordinance of God; and he suits his action to his doctrine. When pressed by the bloodthirsty bigots of his race and religion, he appeals to Cæsar. In Elisha's creed, making religion holily secular, prophet, apostle and Great Teacher agree.

This view of righteousness is in our time exceedingly rare. With many the church is the only field of God's immediate activity. The state, society, the busy life of mankind, they despise as of trifling consequence if not the devil's affairs out and out. Less serious men are by this example confirmed

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in their selfish tendency to let society go its way alone, and consequently ignore its interests save when they see chances to advantage themselves by manipulating them.

It thus comes to pass that unselfish and constant regard for public affairs is a phenomenon. There is occasional interest. We love our country. Let her be attacked by traitors from within or by enemies from without, mighty armies would rise ready to die for her. But zeal of this sort is sporadic, unsteady, intermittent. Would-be good citizens forget that peace needs its heroes no less than war, that the social structure may fall from dry rot as well as from a cannonade.

This coldness toward public affairs comes not from men's sheer selfishness so much as from certain false views which have had and still have alarming vogue.

In religion we have been trained for generations sharply to distinguish between the sacred and the secular, and to place political and social duties in the secular class. Although nowadays we are not sel-

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dom admonished that there are no hemispheres to a good man's life, that it is all one continent, solid and continuous, this is not yet the general tone of religious speech, and nowhere has it sufficiently taken effect. The prayer is religious, the trade is—what it is. If I devoutly attend church, I advance myself toward heaven; if I plunge into business, however legitimate, strange if I am not reputed a worldling, spite of sincerest piety on my part.

Equally strenuous has been the doctrine of the church to the effect that heaven is the final cause of man's life on earth; that this existence has meaning only for the next. In vain do we reflect that time well used here on earth in the active love of man must be as beautiful as any equal measure of eternity can be. In vain do we consider the earthly life of Jesus Christ so rich that, do our best, we cannot conceive the Master's subsequent, or any existence, a whit richer—this doctrine has made it a second nature with us to subordinate the present state in importance to the world to come.

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Politics, society, the eager life of man among men, confessedly belong to this world. They are relations which, in their present form, seem finite and temporary. No wonder that we despise them; no wonder that we are of the monk's old spirit still. A great deal of secular teaching confirms people in these false ideas.

Very prevalent yet is the mistake which the political philosophy of a crude age bequeathed us of regarding society and the state as arbitrary creations, not attaching to man in a condition of nature, but artificially fadged on later. Nothing could be more contradictory to common sense or history. Very deep, when rightly understood, is that thought of the Old Testament that society was instituted by God himself, who deemed it "not good for man to live alone." It means that the origination of the social state is no less than the production of man himself, one of the starting points in the evolution of the universe. In the doctrine of man as a political animal, Moses anticipates

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Aristotle, as Aristotle anticipates modern sociology.

The New Testament utters the same thought when it says that the powers that be are ordained of God, not some special type of civil rule—republic, aristocracy, or monarchy—but the essential powers of government which any of these forms of polity must use in order to do its work.

Kindred is the error of supposing that the social organism exists simply for the sake of the individual. Society is in part an end in itself. Man is greater and more glorious than any man. The totality of human relations, as a totality, is a splendid product, worthy of Almighty effort. Far from being accidental, mere scaffolding or instrumentality, it is the innermost, essential part of creation, destined to stand forever.

The gospel for the day, then, is this—that we need a larger, heartier recognition of men's dependence upon one another, and of the moral and religious duties springing out of this close relationship. We are members one of another, and should so re-

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gard ourselves. If one suffers, all are hurt. The true weal of one is a blessing to the rest.

Men pride themselves on family, blood, estate. You scorn to associate with so-and-so because he is of plebeian stock. Friend, in ten generations your blood will flow in the very same veins with his, and in less time than that descendants of yours will be serving descendants of his for wages. With absolute literalness is it true that men are made out of one blood to dwell on all the face of the earth.

The water which supplies the power for the mills at Kearney, Nebraska, has a peculiar source. As you follow it upstream, all at once the canal ends, and you wonder how on earth it is kept continually full. No lakes or ponds appear in the vicinity, yet, summer and winter alike, that mighty tide sweeps forward with steady volume. Travelers have journeyed thousands of miles to see this supposed freak of nature. But to the geologist it is no mystery. The canal simply unearths waters of the distant Platte River,

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which are now known to course underground far on both sides of the visible channel. Canal and river seem diverse, yet are in fact but one stream in two parts, starting up in the eternal snow of the Rocky Mountains, and meeting again at the mouth of the Kearney flume, to roll on together down to the infinite sea. Even so it is with your blood and that of the poor pariah.

That the operative in your cotton factory may earn, say, \$2 a day, the factory must be there with its owners and their capital. Builders of factories and machinery must exist with their respective plants and groups of workmen. There must be men working southern cotton fields; people engaged in the manufacture of implements for cotton-raising; people building and running steamboats and railways; human beings in all lands who wish cotton fabrics and have means to buy them; morality, customs, and laws making traffic and possessions secure; and preachers, teachers, writers, legislators, judges, police, and army giving sustenance to laws and morals. Let any one of these

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conditions fail, and the fortune of that workman is lowered. Society is in the same way a co-operator with every one in all that he is and does. What you think you accomplish is not wrought by you, but by you environed and helped as you are.

Intelligently viewed, the purely political aspect of social organization is immensely impressive. Human government is a wonderful thing—as complex and unfathomable as it is indispensable. The legislature and the executive, the constitution and the courts, the great body of laws, customary and statute, the imposing array of legal maxims, traditions and decisions, and, not least, the morality and political genius of the people, disposing them to law, order and united action—all this in effect goes to make up government. A social-political structure of this sort is about the most precious possession which any people can possibly inherit. All that you possess, whether of mental or of material stores, beyond what would be yours had you always lived in Central Africa, is due to society. It

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measures what other men are to you, not as so many individuals, but as men organically related. It is estimated that through this co-operation and the consequent amassing of wealth one man may today, through his own efforts, enjoy more satisfactions than he could earn in ten centuries were he obliged to begin and work without such aid.

The authoritative aspect of social organization is also invaluable. A very poor government is an infinite blessing compared with anarchy. What thoughtful citizen of the United States has not often thanked God that we are not as Central and South America in this respect?

Nor will government ever become unnecessary. The well-meaning reformer who wishes and expects to reduce it to mere business administration, taking from it its political character and every element of authority, is laboring under a delusion. Some power of coercion will always have to be kept up among men, not because there will forever be wicked ones in their number, but because men will never cease to be

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finite in wisdom. The best men will quarrel over their supposed rights, stopping the wheels of industry. There must be the right, if necessary, to coerce them to break such a deadlock.

And, further, these infinitely valuable treasures—society and the state—are not the creatures of a day, but of all time. No people by itself ever created its government in the large sense we have indicated. As Mr. Spencer has well pointed out, while the materials and instrumentalities of government are of individual origin, the structure as a whole and the final effects of government are due to a higher intelligence. Washington, Franklin, and other founders of our constitution did not originate this nation. They started with a civic order which already had its foundations in the English constitution and a century of rich political development in these colonies. No more did the barons of the Great Charter found the English state. They, too, built upon old substructures, particularly upon



Poplar Lawn School, Va. "Before and After."

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a very positive tradition of free manhood which hailed from the German forest.

Just so touching other elements of our civilization. Little of it is new save in setting. The roots run back through the ages. We have the doctrine of human brotherhood from Jesus Christ, systematic education and esthetics from Greece, ecclesiastical organization and the best parts of our municipal law from secular Rome, international law from the papacy, navigation partly from the Phœnicians, partly from the Norsemen, rhyme and the pointed arch perhaps from the Arabs, the brick from Assyria, and the barrel from Phœnicia. Thus has humanity swept onward, every people and century contributing its peculiar product to make us what we are today.

From this point of view it is easier than when we began to understand the truth that the present social body is no individual's work; that in bringing it into being men have for the most part wrought as instruments, like coral insects building their reefs,

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not as agents with clear thought of the end to be attained.

But that society has been thus far, as it were, mechanically evolved, does not imply that it is always to grow in that way. Just as the appearance of the power of abstract thought was a turning point in evolution in general, so now in social evolution we are at a turning point, which is characterized by the application of conscious thought to the direction of society. Spite of ourselves, we as individuals are to be participants in social development, to make or to mar. We may do our part in a half-conscious, listless, and slovenly way, rendering human society a clog to life, or, conscious of our calling as partners with the divine, so as to render life increasingly rational and blessed.

More than ever manifest in our day is the need of a conscious human guidance to society in its evolution. As the world grows older, the Great Ruler above, more and more takes man into his counsel in directing it. Idle trust in God and in the so-called natural laws of social growth was once not

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so unsafe; but now, as population condenses, men's life together requires increased thoughtfulness on the part of men themselves. Angry problems arise that once had no existence. They will not down, nor will they solve themselves. If given efforts to reform, shape, and manage society suffer shipwreck, the proper inference is not that a let-alone policy is best, but that we need in this field still deeper study and a more consummate art.

It is a dreadful, but quite necessary reflection, that these inestimable gifts may be lost. The best government on earth may fall; civilization itself may suffer eclipse. Egypt was; Athens was; Rome was. Will our beloved America continue to tread the exalted road which has witnessed her career thus far, or is she one day to halt in her mighty march and then droop and perish like all the republics before her?

Such a question is forced upon one scanning certain unsocial and anarchic tendencies of these days. You will, doubtless, expect one to mention as foremost among

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these the lawlessness of ignorant immigrants. Not at all. Head and front of all our dangers in this kind is the apathy among our best people toward social and political obligations. We need an intenser spirit of co-operation in everything that concerns our united life. Public jobs, intended to rob us all, we, of course, reprobate. But there is a narrow spirit in conducting legitimate business which desperately hinders the public good. Trades unions often plan to advantage their members, utterly regardless of the community's weal. Too few are the men and women willing to engage in the necessary general work for which money or political preferment does not and cannot pay. It is a shame that so many of our fellow-citizens shirk jury duty, for instance, often adding insult to injury by ridiculing the jury system. Can people who cheat the assessor or the tax collector remember that widows, orphans, and the poor are sure to suffer from their fraud?

Unmeasured time and toil have to be spent by many, wholly without pecuniary

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return, in the work of institutions lacking which no community can continue civilized. There are, for instance, the city government and school committee, the directors of banks, savings banks, and other financial corporations, of hospitals and infirmaries, various state commissions, and the board of education, of charities and corrections, of health, and many others, to say nothing of orphans' guardians, or of care for church and fraternity interests. Gigantic is the labor which all these entail; priceless is the good they do.

Well have we known business men and lawyers, after passing the day in the confining work of office, counting-room, or store, to bend at night over the accounts of some poor fund, in which they had no earthly interest save that prompted by human kindness, and spending their hours and their best talents in hard figuring to save all the pennies for the unfortunates needing them—carrying to this work the same rigorous methods which they would have used had they expected it to win them millions.

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Tasks of all these sorts have to be done or society will go to pieces; and he who will not participate in them when necessary is, negatively if in no worse sense, an anarchist.

Other anarchists are those who incessantly decry all efforts at social reform, maintaining that the social welfare can never be much if any greater than it is. No one can say that the necessity of a vast deal of evil abroad is self-evident. Not till all possible plans of reform have been tried and have failed ought one to despair of the state; and to preach despair before that bespeaks a bad spirit. Criticism is right and a duty. But indiscriminate condemnation, always to find fault when men are trying to mend wrongs, is not criticism but the death of it. We must, of course, prove all things, but let us not fail to hold fast to that which is good. If it is a sin to call evil good, it is surely no less so to call good evil.

Anarchic in its effect is it also when you impeach the motives or deny the patriotism of immense classes of citizens. We should distinguish sharply between an or-

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ganization and its members. You have a perfect right to distrust the principles of a political party, but only bigots can doubt the motives of a party's entire membership. To denounce as disloyal the members of a political sect which may at any time be in a majority is virtually to despair of the state, and that is next door to treason.

The same of great ecclesiastical or benevolent fraternities. Their creeds and platforms may contain much that is false, and should be discussed with perfect freedom. The bodies themselves may work great evil, so that one may wish them broken up and use all his influence to that end; but it is a different and much graver matter to insinuate that they contain no good men.

Dangerous doctrines are daily taught in the name of politics, philanthropy and religion, and for the time many accept these doctrines as true. But so soon as their real nature appeared, multitudes of their most ardent adherents now would turn their bitterest foes. That men profess evil tenets,

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or even follow vicious leaders, is no proof that men themselves are bad.

The point is not that sweeping criticism, the impeachment of whole classes, is an error of judgment. It is anarchic. It pulls society and the state hopelessly apart and tends to subvert the best work of past generations. You can co-operate with your neighbor, however strongly you and he are opposed in views, so long as you and he trust one another's motives; but let that condition be wanting and you feel yourselves foes, held asunder by indomitable repulsion.

Anarchism hardly less vicious is chargeable on those who regularly decry politics and public men. That there are venal people in political places is a sad fact, but we too often denounce our public servants in the mass for the faults of a very few. From much observation we are satisfied that a very large majority of the men in office in our country mean well. Most who serve us are faithful, patriotic, industrious citizens, toiling according to their best light

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for the welfare of the rest of us. Knowing the good work they do and thinking what slender thanks they get, how flippantly we call them fools and knaves, groaning when they convene and cheering when they adjourn, we wonder that more of them do not turn plunderers, vowing to have the game as they have the name.

The crime of such slander is so much the greater in that it mainly proceeds from people who contribute nothing but speech toward the correction of abuses, real or alleged, which they decry. The only sort of political independence we can admire is that which is active, brave, always abounding in positive efforts for the betterment of affairs, efforts that are truly costly to those who make them. Calling names will never make parties or their methods better. Even to advertise beautiful ideals, unless you do something to realize them, will hardly render you a public benefactor.

This wholesale abuse of public men more than aught else precludes us from getting the very best men into office. This does

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not, however—and here we come upon another anarchic habit of our time—render it right for good citizens to decline office. No more useful career is possible for good men in this age. The common thought upon this point is wholly perverse. We need that hosts of thoroughly able and moral young men, well trained in political and social science, including ethics, should set politics before themselves as their life-work. Do not sneer at professional politics if only it be of the right kind. Rightly followed, it would be a noble calling. Why should not any of us enter upon a public position with a truly philanthropic thought in his heart, taking the place to advance his community, his country, and the race in virtue and happiness? To be a public servant after that fashion requires extraordinary grace. To succeed, one must cultivate the hard side of his nature, nerve to face opposition, to endure lies, libels, and the whole contradiction of the wicked against him, to give blows as well as to take them.

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But the most dangerous and reprehensible anarchy of all consists in debauching the ballot, the purity of which is vital to a free polity like ours. No Hungarian government haters, no Italian Mafia, no Irishmen fresh from the bog, are able to do the mischief to our American institutions which is done by reputable citizens in breaking down by the use of money the civic virtue of the masses. There is no excuse for this. The best people who do it think thereby to elect the right men and secure good laws. It will be in vain. Any temporary and apparent victory gotten so must be at the risk of fearful reaction. You cannot secure good laws by processes which inevitably kill out the spirit of law. Lawlessness must follow that course sure as night the day, and those who have thus sedulously prepared for it cannot complain when they find that they themselves are the victims. When they see their property and their rights voted away, or it may be even their houses burned down, they will have themselves to thank in that they did not trust our

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good old democratic principles, and try as they should have done to educate the masses up to the level of them, but deliberately bribed the ignorant and immoral, not to become good citizens, but to be and continue law-breakers and immoral. If the time shall ever come when free government, when government by the people, has to be relinquished in this goodly land for the tyranny of monarchy on the one hand, or the worse tyranny of a mob on the other, the guilt will lie mainly at the doors of those, high and low, who, knowing better, have, with money, directly or indirectly, helped to eradicate in ignorant voters their already too slender sense of political duty.

It is the great obligation of the hour to cultivate a conscientious worldliness, a righteous, ardent zeal for society and state that shall devote each of us to his fellow-men, not alone as so many individuals with characters to be developed, but as a brotherhood, a society, a nation, susceptible of infinite development in all high forms of weal.

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We need public spirit in ourselves and the purpose and power to evoke it in others.

When Admiral Foote, in eastern waters, invited a native prince to dine with him on his flagship, and himself said grace, the heathen remarked: "That is what the missionaries do." "Well," said the gruff but godly admiral, "I, too, am a missionary."

Would that in matters of our community life we might all be missionaries! Honor the missionary and the work which missionaries are at this moment accomplishing in the civilization of our human brothers in foreign parts. Honor the social missionary, who, braving the gibes and contumely of the so-called "cultivated," espouses the cause of the poor, and on the platform, in the press, or by personal work, proves his love for untitled humanity in its struggles against forbidding social conditions.

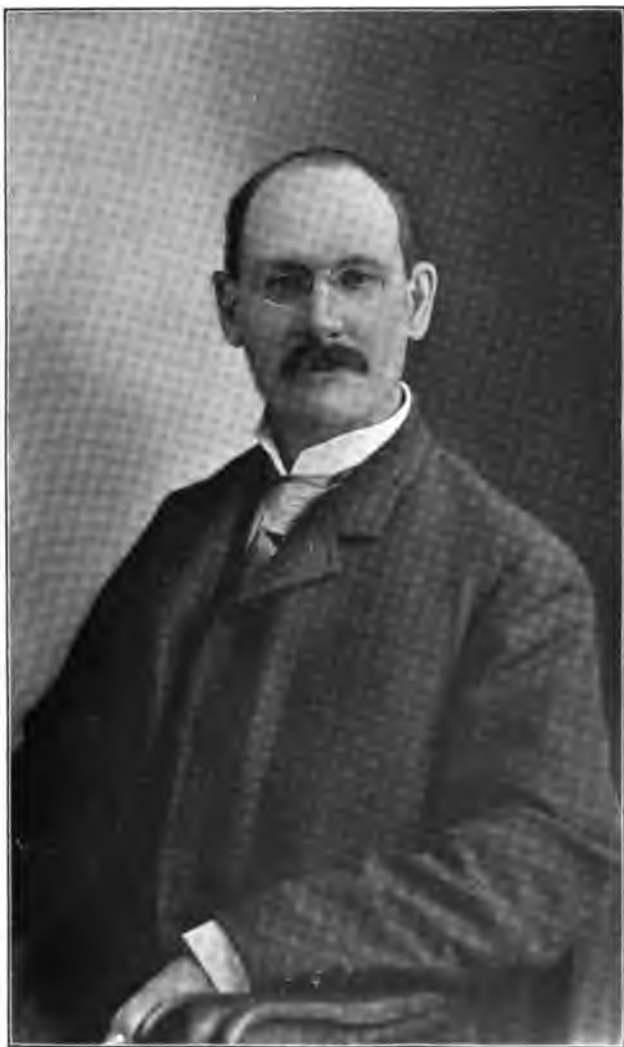
The world painfully needs two more classes of missionaries still—social missionaries to the rich, and political missionaries. Where are the young men and women of means and leisure

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who will duly study the social problems of our time and help to their solution? Where are the consecrated sons and daughters of wealth ready to preach to their peers the obligations resting upon them? Where are the men who will covet political careers with an evangelical spirit, preparing for and, if possible, entering public life with a determination to make it purer and more efficient, seeking places of trust, competing with selfish schemers for chances to exert great power in the capital affairs of men?

May every one who can do good in any of these ways hear the voice which searched the soul of the youthful Buddha:

"Oh, thou who are to save, thine hour is nigh;
The sad world waiteth in its misery,
The blind world stumbleth on its round of pain;
Rise, Maya's Son, wake, slumber not again!"



DR. JAMES CARROLL, U. S. Army.
[See Key to Illustrations, xi.]

CHAPTER XVII

MEDICINE AND MORALS

QUITE possibly the joining of the terms medicine and morals in the title may to some seem strange. The two things so named, not a few more or less intelligent people regard as hopeless incompatibles, each the contradictory opposite of the other, so that if one is present anywhere the other cannot be. Such prejudice is giving way, but it still exists in considerable force. Witness the numbers of people whom no amount of suffering, no threat of death, will induce to call a physician. This temper is unfortunate, destroying useful lives, causing needless pain and fostering baneful ill-feeling among men. Spite of isolated high fees to physicians or rewards like the £10,000 voted by Parliament to Edward Jenner in 1802, and the £20,000 voted him in 1807, public regard for the medical calling is too low. No physician save Lister, we believe, has ever yet been made a peer in

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Great Britain. "An ocean of ale will float its owner to a coronet, but the man who only cures the ailing attains at the best but a baronetcy." In America the greatest medical and surgical practitioners do not, as they certainly should, receive the social esteem shown to high statesmen, ecclesiastics and financiers.

The faults most commonly charged against medical doctors are three—that they are quacks, that they are unfeeling, and that they are the foes of faith.

Taking the medical profession as a whole, reproach at any of these points is undeserved. The fact, no doubt, is that in each of the three particulars some medical gentlemen are out of order, others appear to be out, but are not really so, while the majority, or the tendencies of the majority, are beyond impeachment or complaint.

Professing powers of magic cure, boasting intuitive discovery of secrets whose seal ages-long scientific experiment has found hermetic, courting public attention and professional patronage through delu-

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sive advertisements, betraying the sacred secrets of a physician's confessional. babbling lightly about the reverend agonies of the sick body, breathing into the solemnity surrounding the death bed a current of cold indifference—these weaknesses, manifest here and there, convince the thoughtless that the whole profession of medicine is but sounding brass. The inference is far too sweeping. The quack is a social parasite who should be immersed to death and dissolved in a solution of his charlatan panacea, bottled in carboys of public censure, sealed with the skull and crossbones signet of his own victims, and labeled "malignant poison." But assuredly most who profess the healing art are not quacks.

On the contrary, physicians have led the world in developing and disseminating the scientific spirit, in research, experiments, induction, anti-dogmatism, regard for nature, and acquiescence in natural law. These virtues clearly attest most physicians' opposition to quackery, their insistence on reasons for doing and believing things.

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Based in truth, the medical profession is the arch foe of nostrums, superstitions and shams. Love philters, Cagliostroian elixirs, Chinese charms, Indian moon-herbs, and negro hoodoos, all disappear when Æsculapius with his balances, retorts and crucibles draws nigh.

All have known surgeons and perhaps physicians who seemed destitute of feeling, glorying in their callousness at sight of pain. We remember an army surgeon who always wore the same corduroy clothing in which he operated, refusing to let the blood be washed off. He was weak enough to be proud of his gory look. Hardly less ghoul-ish is he who cuts living human tissue with only a sense of the mechanical and scientific precision and the artistic finish of the work, an insensibility which every philanthropic soul must condemn.

But cases like these are few. As a rule the calm, resolute, self-possessed surgeon whom we are tempted to think a ghoul is really an angel of mercy. Only such as he are thoroughly fit to cut. The writer was

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once, as a boy, the subject of an operation without anesthesia, the head surgeon in which was old, fidgety, nervous and cruelly kind. He made no progress, trembling and suspending work at every scream. After a time his assistant took charge, a man firm, composed, insistent, kindly cruel. He did not heed cries, but in the shortest possible time cut, sewed up and relieved the patient. Commend us to that type of operator always.

A good surgeon, called almost daily to be the chief actor in deep tragedy, must cultivate steady nerve, must hold himself in physical, mental and emotional equipoise. Aware that the pain he causes is unavoidable, he does well to ply his knife strongly, but he never forgets that pain is pain. He does not permit his phlegm, in itself perfectly benign, to assume vicious strength. The best thought of recent years places increased value upon the feelings. The highest culture, like the highest education, tests the soul by its affections. The finest practice of physic or of surgery includes philanthropy. A surgeon who views his patient

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with a beneficence that converts into practice the theory of men's brotherhood is none the less but all the more calm in intent, steady of nerve, true in execution. The successful surgeon is something higher than a mechanic. Back of the anatomical knowledge, the trained mind, the clear eye, the trusty hand, is a force mighty in proportion as it is subtle and intangible, the aspiration "to be to other souls the cup of strength in some great agony." From this passion sprang anesthesia to deaden pain, and asepsis, widening the field of victorious medicine and surgery and forcing death to cede great classes of cases which from the beginning it had successfully claimed as its own. The author of the article on Jenner in the *Encyclopædia Britannica* says: "There can be little doubt that Jenner would never have had the perseverance to carry through his great discovery of vaccination had not his earnest benevolence pressed it on him as a duty to confer such a great and permanent benefit on the whole human race."

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The query, "Who is my neighbor?" sealed for immortality the Good Samaritan, befriending a stricken fellowman, bathing his temples, binding up his wounds, turning from his own business to carry the victim to shelter, ministering to him there and providing for his welfare afterwards till health and strength should return. Who is the Samaritan on the modern Jericho road, this epoch of all-killing greed? Who now distinguishes himself by sharing time and goods with his neighbor in distress?

Happily our modern day sees many Samaritans, but none among them more richly deserves the name than the medical man. Our observation is to the effect that in costly and telling philanthropy, the risking of life and health for others, unpaid service for the poor, patience with the petulant, sympathy with the bereaved, the profession of medicine leads all others. In fact, best success in the calling presupposes a constant, taxing efflux of altruistic energy. Every modern practitioner recognizes that a kindly selfhood on his part helps patients

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more than the doses he gives; that his powders, pellets, salves and lotions are as good as impotent unless administered with a certain virtue of sympathy going out of him, quickening and healing. It is a measureless credit to the profession that so vast a majority of its members keep up a genuinely humane spirit while all the time dealing with abnormal and morbid conditions.

Physic is sometimes stigmatized as by eminence the inspiration of unbelief. The dissecting room is called the school of atheism. A limb here, a head there, the body dismembered, desecrated, the question "Where is the soul that unified, vitalized, inspirited?" is not always answered as a modern poet* answers it:

"Death is a dialogue between the spirit and the dust.
'Dissolve!' says Death. The Spirit,
'Sir, I have another trust.'
Death doubts it, argues from the ground; the Spirit
turns away,
Just laying off, for evidence, an overcoat of clay."

But reflection reveals even to the anatomist that the poet is right, or at least as likely

* Emily Dickinson.

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to be right as the skeptic. The quickening spirit of the universe claims its own, but leaves behind from its fullness these patterns of clay for the student's study. If he approach "the discarded vesture" with humility his search discloses even in the dead tissue before him a wondrous system of purposed arrangements, means cunningly suited to ends, delicate adaptations of all sorts, which must, we will not say change him from a doctor of medicine to a doctor of divinity, but certainly must set his unbelief, if he has such, in very unstable equilibrium. Studious anatomists easily enough learn the hollowness of old-fashioned natural theology; but they also learn, or at least learn to surmise, that the thing to do with natural theology, as heretofore taught, is to broaden, deepen and reform it, not to reject it. That so few medical men profess this healthy surmise of spiritual powers and a spiritual world is no sign that they do not possess it. Your speech smacks of your daily work, but your strictly personal and characteristic thoughts lie deeper. Out of

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the heart are the issues of life, not out of the lungs.

Rightly viewed even a physician's work is religious in its way. In medieval times man's salvation began with the soul. Clearing the path of obstacles to this objective involved endless flesh renunciations and macerations. Fasting, the horsehair shirt, ashes, the self-inflicted scourge, crawling on knees to shrines, and various other species of flesh abnegation were intended to subdue and refine the physical body so the spiritual light within might blaze forth. The modern redeemer, working in the light of biology, inverts this order. Basing his practice on the principle of evolution, he seeks not death but life and growth, beginning with the material organism and awaiting spiritual florescence to result in time. His guide in this is the great Healer, who, as prelude to or part of a gospel for souls, fed the hungry, made the lame to walk and the blind to see. That method of redemption, beginning with the flesh, a method natural, rational and effectual, is the one

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adopted by this great evangelical agency the medical profession.

The scientific spirit, which, we have said, physicians as a class possess in an eminent degree, is itself a species of piety. We have ceased to think God a power outside of his world, fingering, pushing, managing, as a weaver his loom or an engineer his machine. The physical world is the Godhead's living robe. The universe is not a mass of God's old works, finished, geared and wound up six thousand or six million years ago; the universe is a display of God's fresh works, created moment by moment here and now.

"There was never any more inception than there is now,
Nor any more youth or age than there is now,
And will never be any more perfection than there is
now,
Nor any more heaven or hell than there is now."

The creation of the world and the sustenance of the world are identical acts. Of course, Spirit is greater than matter. God and world are no equation, not two mere names for the same thing, like common salt and chloride of sodium. Creator transcends

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creature infinitely. It is exhausted in Him but He is not exhausted in it.

"From Thy will stream the worlds, life and nature,
thy dread Sabaoth."

Will is producer, the world is product, but the product is not produced at arm's length. My thought is my act, product, creature, but it is not "other" to me; it is part or phase of me. So God's product, the world and its fullness, is not his *output* but a process within Him. In Him we live and move and are. Turn whither you will, there He is:

"And God is seen God
In the star, in the stone, in the flesh, in the soul and
the clod."

We are impressed that this or something like it is and always has been the thoughtful medical man's faith, and that so far as it goes it is a good faith. As Bulwer Lytton says:

"There is no unbelief.
Whoever plants a seed beneath the sod,
And waits to see it push away the clod,
He trusts in God.

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"Whoever says, when clouds are in the sky,
'Be patient, heart, light breaketh by-and-by,'
Trusts the Most High.

"Whoever sees 'neath winter's field of snow
The silent harvest of the future grow,
God's power doth know.

"Whoever lies down on his couch to sleep,
Content to lock each sense in slumber deep,
Knows God will keep.

"Whoever says 'To-morrow,' 'the Unknown,'
'The future,' trusts the Power alone
He dares disown.

"The heart that looketh on when eyelids close,
And dares to live when life has only woes,
God's comfort knows.

"There is no unbelief,
And day by day, and night, unconsciously,
The heart that lives by faith the lips deny,
God knoweth why!"

Thus the indictments against Æsculapius have to be quashed while the testimony advanced to support them turns upon examination into applause and proof of merit.

Much more than this. Æsculapius is not only meritorious on the counts where he was alleged to be guilty, but he is equally

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meritorious on countless other counts. We can discuss none of these, we can only mention a few, to be taken as specimens and reflected upon at your leisure. Unlimited praise is due the medical fraternity for things like the following:

1. Wide knowledge of hygiene and wide application thereof, partly preventing disease and partly healing without use of drugs diseases which apparently cannot be prevented. With this may be mentioned the increase of temperance in eating and drinking. It is estimated that in 1726 Great Britain consumed six gallons of spirits a head of the population as against one gallon at present.

2. Merciful reduction in the dimensions of doses, the use of little pills instead of big ones and the substitution of pellets and lozenges for boluses.

3. The elevation of medicine to scientific rank, against the stubborn, incredible opposition of patients and their friends, who so often prefer death upon old methods rather than life and health by new ones. This



DR. ARISTIDES AGRAMONTE
[See Key to Illustrations, xi.]

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progress may be appreciated by recalling that till the middle of the eighteenth century medical knowledge was almost wholly empirical, based upon the old humoral pathology and weighted with abject reverence for authority. For a long time improvement was slow, but since the clinical thermometer was introduced and bacteriological science began to be utilized in the medical field, betterment has gone on by leaps and bounds.

4. The still more remarkable progress of surgery, even aside from anesthesia and asepsis; the art of applying these and the various other arts connected with surgery, *e. g.*, the invention and use of clever instruments such as those of mechanical surgery, probably constituting, all taken together, as great an advance in surgery as either anesthesia or asepsis.

5. The system of improved hospitals, to-day the most Christian characteristic of Christendom, owing its existence mainly to the medical fraternity. If physicians have not furnished the funds for it they have pro-

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vided the inspiration, the knowledge, the direction.

6. The training of nurses and the wide use made of them in hospitals and homes. So far as known, the employment of women nurses began, for England, in 1799, with an order from the army medical board to regimental surgeons, making provision for the better care of sick soldiers. Women nurses were to prepare comforts for the patients, do their washing, cook their rations, and help administer their medicines, for which services they were to receive a wage of a shilling a day apiece. The elevation of this noble profession till nurses like Florence Nightingale and Sister Dora rank with the world's most distinguished persons, is mainly due to appreciative encouragement by medical men. A writer in a London paper is "irresistibly compelled to the conclusion that perhaps the most vivid contrast between the social life of the eighteenth and the twentieth centuries will prove to be the changed attitude of the whole community toward women, especially

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as regards their work in the treatment of disease.”*

Numerous and vast as are these contributions to human weal, which Æsculapius has made already, society fixes demands upon him which he has thus far only imperfectly met. Not only must the crusaders on behalf of therapeutics continue the onward march as long as pain and disease keep up their ravages; not only must Æsculapius be a torch-bearer for future generations as he is a toiler for contemporaries; but even for contemporaries he must do more and better work.

The scientific spirit still needs cultivation. So recently as 1895, a scientist was describing to an eminent London physician the alleged effects of the Röntgen rays, which the medical journals had not yet noticed. The physician's answer was: "The thing is scientifically impossible and the story is, in fact, a damned lie." It is alleged on good authority that the pharmacopœia still "contains a vast list of drugs of which doctors

* H. D. Traill, *Editor Social England*, vol. v.

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know little, for application to all sorts and conditions of bodies of which they know less." We have seen it queried whether the "adult dose" of today is not a pure piece of empiricism differing in degree from the eighteenth-century medical empiricism, but essentially the same in kind.

Physicians might vastly increase their usefulness by becoming to a greater extent than now instructors of the public in matters pertaining to their specialty.

Innumerable human beings suffer through life from curable complaints and deformities because neither they nor their friends know these evils to be curable. The proportion of intelligent people totally ignorant of the wonders which surgery and medicine are now accomplishing is astonishingly large. In many neighborhoods club feet, hernia, crosseyes, curvature of the spine, and a hundred other ailments, are common, in curable forms, the patients having no idea that relief is possible. Physicians owe it to sufferers to make these wonders known. The suspicion, sure, of course,

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to arise in many minds, that their motive in spreading abroad such information is selfish, they should ignore or brave in view of the good they may do by letting the afflicted know that healing is within reach.

Ignorance is widespread, dense, and dangerous, touching another line of maladies. Nameless destructive habits and diseases are abroad, whose ravages could be most happily lessened were physicians less reticent. The victims themselves need instruction; and when, as is often the case, they are young persons, their parents and friends need it as well.

Family physicians should be bolder than they are in urging parents to inform their children in highly important points of anatomy, physiology, and hygiene on which young people not carefully coached by those responsible for them are prone to learn wrongly or else to learn when it is too late. No false modesty, no narrow view of his office, no fear of being thought prurient, should keep a family practitioner from faithfully performing this delicate duty.

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Much that is termed modesty touching the realm of life and conduct to which I here refer, reminds me of the Pope's regulation when he was temporal ruler in the Papal States, that medical schools should teach obstetrics from the manikin only. Such prudery can produce no good result morally or otherwise. Our experience with young men leads us to suspect that lack of proper instruction in this department of life wrecks armies of youths every year.

There ought to be some way by which medical people could disseminate the knowledge which they possess regarding obstacles to proper and happy marriage. Physicians know as few others do the sorts of cases where, because of some physical or mental ill in one party or the other, or some incompatibility between the parties, marriage, if entered into, is either a crime or an inevitable cause of misery and woe. No end of nervous prostrations, divorces, suicides, and murders result from these *mesalliances*.

There should in some way be made known the salient facts about venereal dis-

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eases. Greater attention needs to be called to their wide and in many communities increasing prevalence, making it proper for all to be on their guard against them. Few know about the alarming commonness of gonorrhea, especially among women, or the great number of malignant and stubborn disorders to which it gives rise, making it perhaps, on the whole, as mischievous a complaint as syphilis itself. Few persons are aware that the most innocent man or woman in the world may contract these diseases, a fact which ought to produce greater frankness on everyone's part in referring to them, and greater freedom on the part of patients in seeking medical relief.

In keeping so much to themselves their knowledge on these subjects many physicians are no doubt influenced by fear of seeming to solicit patients. Others perhaps think that the knowledge referred to, if made general, would lessen the demand for medical services and hence the profitability of the medical calling. We should dislike to recommend any policy which would

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have that effect. We feel sure that the dissemination of light on the topics just spoken of would not detract from physicians' profits, but greatly enhance them. It would lead the despairing to seek treatment, and quacks' customers would repair to responsible practitioners.

Lastly, physicians may greatly serve mankind by guiding ethical thinkers in or toward the solution of certain capital moral problems now waiting to be settled.

The grim manner of many a good surgeon is a text to be dwelt upon. "Happiness is but a dream and nothing is real but pain," said Voltaire, and Schopenhauer echoes the sentiment. We may believe the first member of this epigram or not, but that pain is real is a statement admitting no doubt in the minds of those who suffer. Hosts of men suffer needlessly. There is a calculus of woe, wherein medical men are masters and could most usefully instruct humanity. The problem for medicine and surgery is how to lessen net pain, how to enlarge the total net happiness. The sur-

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geon sees that the relentless infliction of great pain is often true mercy, the only true mercy, the sole method of preventing greater pain. Society needs to master this lesson. All of us sometimes and most of us at all times, in respect to certain matters, are cruelly kind, unmercifully merciful, gruesomely gentle, savagely sweet. To avoid a twinge of pain here we let loose a world of it there. We should be braver. Resist the pain devil and often he will flee from you. The excessive fear of pain is an evil which needs to be carefully pointed out, and insisted on. A man or a woman by whom pain is too much dreaded, who keeps up too diligent effort to avert it, actually suffers more than one who fears pain less and makes smaller provision for its avoidance. Exactly the same is true of every community and of mankind at large. The medical profession must work out this calculus of pain. They alone have the necessary data or can make the needed observations.

Most of us would unhesitatingly say that

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rough sports like football are to be encouraged, for instance, for the reason that they harden youth to condemn all ordinary forms of pain and both to witness and to bear without flinching pain too great to be condemned. As noted already, the fear of pain may become morbid and hence a positive new source of pain. A dread of pain which is in itself good may go too far, be too strongly developed. Many people's horror of war is morally pathological. We need schooling in pain and in the calm vision of pain in order to aid men against pain. People who faint at the sight of blood are of no value in case of accident. With equal readiness most would add that those neuroses so common, especially among women, which lead the subjects of them to anticipate pain, to sense it afar off, to have horror even over the thought of it when the pain itself does not exist, are to be discouraged. "Sufficient unto the day is the evil thereof."

But the problem arises: Is there not danger that by the cultivation of contempt for pain and by the repression of hypersensitive-

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ness insensibility may be developed which will tend to the ignoring and toleration of cruelty? Is there not a permanent necessity for missionary work against cruelty, such as only exquisitely sensitive people can perform? Are not the majority of us in danger of becoming brutes should such ministry be taken away? We have heard it earnestly urged as a sufficient reason for forbidding vivisection in every form that vivisection dulls human sensibility, the assumption being that whatever dulls sensibility in however slight degree is inevitably wrong. Such a view has some justification, though no doubt the contention may easily be carried too far. Where the line shall be drawn between these two antagonistic tendencies, between the too great heedlessness of pain and the too ready heeding of it, is a calculus which only men of medical education and experience can work out.

Again, suppose that a measure of training in insensibility is to be commended, do we need, is it admissible, artificially to create pain for the mere purpose of hardening peo-

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ple's feelings? Certain vivisectional practices seem to be carried on with this end almost solely in view. A daily paper has the statement that the experimenters at certain hospitals practice such atrocious cruelties as laying bare a dog's spinal column and then applying to it powerful electric currents, pouring hot lead into the creature's stomach, removing portions of its body and grafting parts of other animals on, tearing out its entrails and inserting others, dividing the brain, dipping half the body in boiling water, singeing the hair from its back, and so on, the brute being, to begin with, rendered by the removal of its wind-pipe unable to appeal to its tormentors by the faintest cry. Although the article did not allege that the animal suffered all this without anesthesia, such was the inevitable inference. We are convinced that there is no need of practices like these for the sake of steeling people's sensibility or for any other purpose. All the sentient vivisection ever needed, if any, can be performed by

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men whose nature or regular work gives them the necessary nerve.

That vivisection under anesthesia is legitimate and useful seems to me no longer subject to discussion, it being perfectly clear that vivisection in that form accomplishes vast net good. We are given to understand that the sciences of anatomy and physiology cannot, by the study of the cadaver, be advanced a single point beyond their present position, but that both can be immensely promoted by the examination of living tissue. The improvements in surgical and medical practice which have been made possible by vivisection are an all but demonstrative indication that other gains of equal importance are in store by the use of similar means.

A physician in Chicago has shown by experiments on dogs the great value of hot water in the stomach in cases of nervous shock. He takes out the intestines and whips them, producing total shock, so that the animal seems as good as dead after the ether influence is gone. He then, through

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a tube leading to a rubber bag in the stomach, injects hot water into the stomach, heating the great sympathetic nerve, the brain of the abdomen, when the intestines recover tone and color, and the animal has to be etherized again to prevent consciousness. The degree of shock is seen by the color of the intestines.

Dr. M. M. Johnson, of Hartford, Conn., utilizes this information in treating patients who have been operated on for appendicitis. For twenty-four hours he gives such only warm water. The intestines, in a state of virtual paralysis from the operation, with little or no peristalsis, regain tone; the colic passes off and the patient becomes comfortable and practically well again.

In the *Lancet* for October 10, 1896, is an account of Professor Michael Foster's Huxley lecture, then just delivered at the Charing Cross Hospital Medical School, on recent advances in science and their bearing on medicine and surgery. Professor Foster confined himself entirely to physiology, and chiefly to three points: "The observations of

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the Brothers Weber on the inhibitory action of the vagus; the discoveries by Bernard of the effects of section of the sympathetic nerve in the neck—leading to all the advance in physiological and medical knowledge included in the word ‘vasomotor’—and of the formation of glycogen in the liver; and the observation by Waller of the dependence of the nutrition of a nerve on its continuity with the central nerve cell of which it is a process. . . . Professor Foster was careful to show that all these discoveries resulted from experiments on living animals.”

There is a perfectly enormous mass of evidence by the highest authorities proving incontestably the value of antitoxin in the treatment of diphtheria.

There is a disease called myxædema, in which the skin fills with pus. Feebleness of the nervous system follows, and at last dementia and death. The complaint is now known to be caused, however mysteriously, by the failure of the thyroid gland in the neck to secrete properly. The connection

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of the gland with the disease was ascertained by cutting the gland out of dogs and observing that they had all the symptoms of the disease. It is cured by taking the glands from dogs and giving the contents to human patients. No drug ever used has produced such invariably excellent results as this thyroid extract, which we owe to vivisection and to vivisection alone. It has restored the health and happiness of many victims of one of the most awful diseases from which humanity suffers.

The mere fact that forward steps in useful science cost pain; the fact, if it is such, that a measure of insensibility, unfortunate in itself, is occasioned by vivisection, is not decisive. The great question—the only question—is, Will any proposed piece or kind of vivisection increase or lessen the net total of pain? If vivisection will lessen the net total of pain, it should be encouraged. If the prevention of it will lessen the net total of pain, the anti-vivisection crusade ought to prevail. What we wish to know is, Which is really the cruel side?

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In Philadelphia an eminent surgeon wished to transplant a very important nerve from the thigh of a dog into the thigh of a man whom a serious lesion had deprived of this nerve for a considerable distance. In seeking his animal for the experiment, he naturally turned to the dog pound. The president of the society for the prevention of cruelty to animals, a lady of the highest character, having charge of this institution, refused to permit a single brute to go out of the pound for the surgeon's purpose. We deem the lady's refusal a most cruel act. It can hardly be doubted that any temporary pain caused the animal by the excision would be incomparably less than that which the human being would suffer from the permanent disability which threatened him. Our sentence in this case would be the same whether the dog has to take the knife with or without anesthesia.

Anti-vivisectionists cry out quite too much against experimentation with curare. The common idea is that curare, affecting only the motor nerves, quiets the subject, but

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leaves it perfectly sentient. The fact is that curare is an anesthetic, as testified by Boelendorff, 1865; Lange, '74; Romanes, '76; Steiner, '77; Binz, '84, and Lauder Brunton, '87, all of whom say that the sensory nerves are depressed and paralyzed by curare. Thus the curarized animal is rendered practically free of pain by the curare itself, but as a matter of fact, morphia, chloral, etc., are nearly always administered along with it for the reason that pain materially interferes with most vivisection experiments.

There is, then, painless vivisection, which, its painlessness being guaranteed, should be permitted to all physicians and medical students; and there is painful or sentient vivisection, vivisection without anesthesia. That this is sometimes allowable we cannot doubt, but, as said, just when and under what restrictions, laymen must leave medical men to say. Their verdict will probably be somewhat as follows:

Painful vivisection may be divided into three classes or kinds:

1. The Pathologic. The invasion of

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sentient living tissue with some sharp instrument for the purpose of originating disease in the animal the examination or results of which may aid, directly or through the understanding of the disease, to its cure. This is legitimate and should be free to all medical practitioners and students, under only the ordinary restrictions against cruelty to animals. In this way antitoxin is obtained against diphtheria, and also vaccine virus.

2. Merely didactic. The cutting of sentient living tissue by or before students for the mere purpose of elucidating already known points in the sciences. This should be forbidden altogether. The risk of pain and torture is too great.

3. Scientific. The cutting of sentient living tissue for the purpose of obtaining new and important information in physiology. This should be permitted to accredited physicians and professors, but only under rigid safeguards.

APPENDIX A

(See Chapters IV and VII)

"GO WEST, YOUNG MAN"

One evening in 1899 or 1900 the author of this volume dined with the Hon. Mr. Gale of Galesburg, Illinois, of the family for whom that city was named. This note gives the substance of statements made by him during and after the dinner.

Mr. Gale was intimately associated with the Chicago, Burlington and Quincy Railroad throughout its great formative period. He said that at first no one thought of Chicago as the terminus of any railroad, all the roads supposing they must end at the Lake below the city. This accounts for the manner in which the Rock Island and the Illinois Central still approach Chicago, swinging far around to the south before they enter. The Burlington directors had supposed that their line, too, must head directly for the Lake. This notion of theirs was changed by no less a person than Stephen A. Douglas, who came to Galesburg on purpose to intercede with them to aim for Chicago direct, assuring them that Chicago itself had a great destiny before it, and that its trade was more to be sought than the Lake trade.

Mr. Gale said that the Burlington management was slow to see the necessity of bridging the Mississippi, their belief being the then common one that Iowa con-

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tained little, if any, good land. This conviction was gradually changed to admit that considerable valuable land could be found as far as one hundred miles west of the river. Moreover, they at first disbelieved in the possibility of bridging the river below Rock Island. Their engineers said that the Rock Island road could, of course, bridge the river if it thought best, because it had an island to build to and to build from; but they urged that to attempt bridging the river without an island was a desperate undertaking and would probably end in failure.

When these prejudices broke down, and it was seen that Iowa was fertile far to the west, there was another considerable period during which Des Moines was set as the western limit of good land. With this idea in view, a project was set on foot and long cherished to round up the Burlington, the Rock Island, and the Northwestern, all at Des Moines, in the belief that no more than one line would ever be called for west of that point. Such a scheme was later carried out when the Union Pacific was built, the three roads named, and subsequently several others, being made to unite at the Union Pacific junction in Council Bluffs.

Like incredulity touching the value of the country beyond marked men's temper when they began to consider the question of crossing the Missouri. Charles F. Perkins, who had been president of the Burlington, once informed the writer that his first report to the directors urging the extension of the road from the Missouri River to Lincoln was received with the gravest shaking of heads. For a time few or none believed

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that Nebraska was worth settling. Soon a few said that a good farmer could get a living in many a patch as far out as a hundred miles from the river. Gradually the limit moved west. Down to a very recent period, however, the hundredth meridian was regarded as the certain terminus of arable land, most people, even in Nebraska, supposing that the western part of the state was doomed to perpetual aridity and fit for naught but pasturage. The proved possibilities of dry farming (see Chapter IV) have changed this.

APPENDIX B

(See Chapters III and IX)

Origin of the Afforestation Policy

By Head Dean **CHARLES E. BESSEY** of the University of Nebraska

A good many years ago, after having learned much about the sandhills, and especially after I learned that the sand was always moist a short distance below the surface, I began suggesting that these sandhills might be utilized for growing pines. I had seen great pine forests growing in Michigan, where the soil was as sandy as on the sandiest places of the sandhills of Nebraska, and it seemed to me quite likely that our own moist sand could bear great forests of pines as easily as the sand of Michigan. So in successive reports made to the Nebraska State Board of Agriculture and other similar bodies for a number of years I urged that the experiment of planting pines in the sandhills should be made.

In the spring of 1891, the attention of Dr. B. E. Fernow having been called to the matter, he sent me word late in the spring that he was ready to make the experiment of planting pines in the sandhills if I would furnish him with the land for such purpose. I was considerably provoked over the matter, as my duties at the University made it entirely impossible for me to take care of a project like this. I had never owned

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any sandhill property and did not know where to turn to find a tract which could be turned over to Doctor Fernow's use. I expressed myself rather emphatically as I walked up and down the corridor in Nebraska Hall, and finally when I stepped into Professor Bruner's office (then in Nebraska Hall), he promptly said to me that he thought he could furnish the sandhills such as Doctor Fernow required. A little inquiry developed the fact that Professor Bruner and his brothers had taken up some land in southwestern Holt County, and it turned out to be right in the sandhill country. Accordingly I was able to answer Doctor Fernow's challenge by saying that if he sent on his trees they would be cared for. He did so rather late in the spring, and Professor Bruner's brother took charge of the work under the direction of Doctor Fernow. The plans for the planting were made by Doctor Fernow and followed in the planting. Several plats were laid out and treated somewhat differently. One of the plats was plowed up in the usual way and the planting made on the plowed land. The other plats were merely furrowed at the time of the planting, the trees being planted in the bottom of the narrow furrow made by running a plow through the sod at the time of planting.

After the planting had been done reports were made for several years as to the condition of the trees. At the end of the first year no trees were left on the plat which had been plowed up, as the wind blew away all the sand and left nothing but a "blow out." On the other plats the western yellow pine and the jack pine trees survived, and the reports were favorable. After

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several years, however, the plantation dropped out of public sight, and no further reports were made. We supposed, as probably did everybody else who knew of the original planting, that the trees had disappeared and that we had simply one more case of the wreck of tree planting such as were familiar to us in the days of the forest homesteads, known as "tree claims."

Eight or ten years passed, and during this time my reports made to the State Board of Agriculture and other similar bodies contained reiterations of my suggestions that pines should be planted in the sandhills. At last, in 1901, Mr. Pinchot, then chief of the Bureau of Forestry in Washington, sent out a party of foresters to make careful investigation of the forest conditions in Nebraska. The party was under the direction of Mr. William L. Hall, and he and his men traveled over the state from the Missouri River to the Wyoming line, examining the open land, the rough canyon land and also the fringes of forest trees along the streams. They penetrated the sandhills at different places, and in this way obtained a very good notion as to the conditions throughout the state.

During this time Mr. Hall made my office in Nebraska Hall his headquarters, and one day he came in and made inquiry about a plantation of pines in Holt County about which he had read in some of the early reports of the State Horticultural Society. This called to mind the plantation which I have spoken of above, and I told him what I knew of the matter, but said that I supposed by this time that the whole plantation had disappeared. He made sufficient inquiry, however,

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of others, including Professor Bruner, to warrant him in determining to visit the spot and to see for himself what had happened there. I confess to have been quite troubled over the fact that Mr. Hall was to visit this plantation, as I felt sure that it must have disappeared, and its disappearance would be an argument against the possibility of foresting the sandhills, in spite of any carelessness that might have resulted in the failure of the experiment. So I waited for a week or ten days, in a more or less troubled state of mind, when one day Mr. Hall walked into my office in a state of great excitement. I called to him and said, "What is the matter, Mr. Hall?" when he answered, "Why, I have seen them." "Seen what?" I said. "Those trees," he said. "What trees?" I said. "Oh, those planted in Holt County ten years ago"; and then he went on and in much excitement told me what he had seen. The pine trees were from 18 to 20 feet high. They had formed a dense thicket, in which forest conditions had already appeared. The growth was greater than on similar trees planted in the eastern part of Nebraska. Mr. Hall was most enthusiastic in his description of this little plot of pine trees. At last I became somewhat troubled, as I feared that through some mistake the trees had been planted on a patch of good soil instead of on sandhill soil. However, Mr. Hall assured me that that plantation was on the "sandiest of sandhills."

The result of this experiment was to dissipate all doubt as to the possibility of growing pine trees on the Nebraska sandhills, and as a consequence Mr. Hall

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made the recommendation to Mr. Pinchot that certain tracts of land in the state should be set aside for experimental planting. On Mr. Pinchot's recommendation two forest reserves, one situated between the Dismal River and the Middle Loup River, and the other one in Cherry County, were set aside, and within a short time work was begun by the United States Forest Service in the experiment to grow pine trees. This, in short, is the history of the pine tree planting in the sandhills.

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